

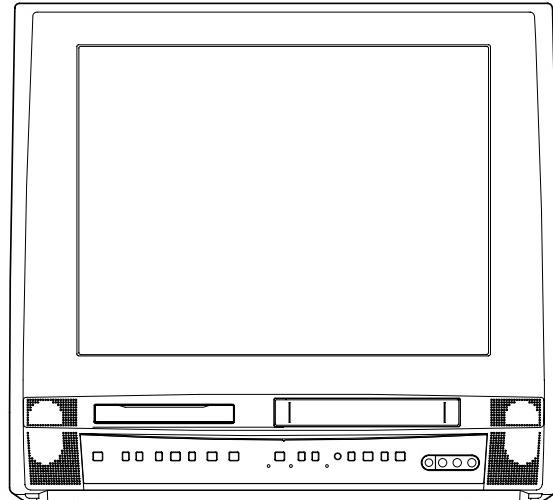
esa™

SUPPLEMENT

SERVICE MANUAL

This service manual shows only the differences between the model EC720E and the original model 6720FDE. All other information is described in the service manual of the model 6720FDE.

20" COLOR TV/DVD/VCR EC720E



Different parts from original model (6720FDE)

Ref. No.	Description	Part No.
A1X	FRONT CABINET ASSEMBLY T1008UJ	1ESA10162
A1-1	FRONT CABINET T1008UJ	1EM120034
A1-2	CONTROL PLATE T1008UJ	1EM220031
A1-3	BRAND BADGE T9010UL"ESA"	1EM420160
A1-4	CASSETTE DOOR T1008UJ	1EM420198
A1-7	TRAY PANEL T1008UJ	1EM420197
A3▲	RATING LABEL T1008UJ	-----
A4	Not Used	
S1	CARTON T1008UJ	1EM420196
X2▲	OWNER'S MANUAL T1008UJ	1EMN20069
X3	REMOTE CONTROL NE230UD 151/ECNX501/NE230UD	NE230UD
X5	SHEET RETURN STOP T5510UL	1EM420161

EC720E
T1008UJ
2004-06-22

SYLVANIA

SERVICE MANUAL

Sec. 1: Main Section

- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's

Sec. 2: Deck Mechanism Section

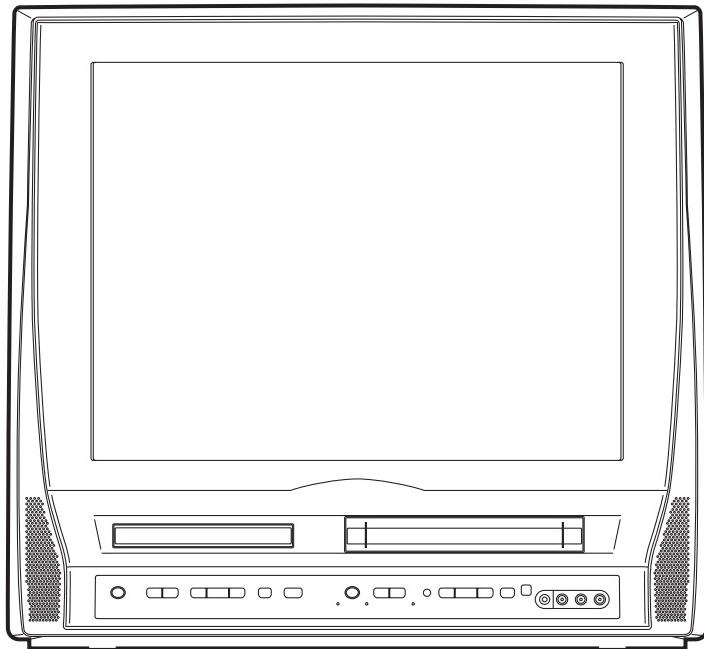
- Standard Maintenance
- Alignment for Mechanism
- Disassembly/Assembly of Mechanism

**Sec. 3: Exploded views
and Parts List Section**

- Exploded views
- Parts List

20" COLOR TV/DVD/VCR

6720FDD

**VHS**

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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MAIN SECTION

20" COLOR TV/DVD/VCR

6720FDD

Sec. 1: Main Section

- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's

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SPECIFICATIONS

*Mode-----SP mode unless otherwise specified

*Test input terminal

<Tuner>-----Ant. input (80dBuV) Video: 87.5%

Audio: 25kHz dev (1kHz Sin)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	—
2. Linearity	Horizontal	%	—	15
	Vertical	%	—	10
3. High Voltage	—	kV	25	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.4
	Corner	m/m	—	2.5
	Side	m/m	—	1.5
2. Tint Control Range	—	deg	±30	—
3. Contrast Control Range	—	dB	6	2
4. Brightness (100% White Full Field)	Contrast: Max	ft-L	35	24
5. Color Temperature	—	K	9200	—

<DVD>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution (TDV-540 TIT.2 CHP.16)	—	Line	330	320
2. Video S/N at CN3400 (TDV-540 TIT.2 CHP.6)	—	dB	60	55
3. S/N Chroma at CN3400 AM (TDV-540 TIT.2 CHP.17) PM	—	dB	58	53
4. Audio Distortion (LPCM 48 kHz, W/LPF) (PTD 1-NOR TIT.1 CHP.1)	L R	%	0.03 0.03	0.07 0.07
5. Audio freq. response (LPCM 48kHz) (PTD 1-NOR TIT.1 CHP.5 -- 10)	L, 20 Hz R, 20 Hz L, 20 kHz R, 20 kHz	dB	0	+4/-5
6. Audio S/N (LPCM 48KHz,W/LPF,A-WTD) (PTD 1-NOR TIT.1 CHP.1 -- 2)	L R	dB	85	75

<VCR>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution	(R/P, SP)	Line	230	200
2. Jitter (Low)	(R/P, SP)	μS	0.1	0.2
3. S/N Chroma AM(SP)	(R/P, SP)	dB	38	33
PM(SP)	(R/P, SP)	dB	38	33
4. Wow & Flutter (JIS, UNWTD)	(R/P, SP)	%	0.25	0.5

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N (80dBμV, TV4ch)	—	dB	45	40
2. Audio S/N (W/LPF)	—	dB	45	40

<NORMAL AUDIO>

All items are measured across 8Ω resistor at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power	(R/P, SP)	W	1.0	0.8
2. Audio S/N (W/LPF)	(R/P, SP)	dB	40	36
3. Audio distortion (W/LPF, -10dB 1kHz IN)	(R/P, SP)	%	3.0	5.0
4. Audio Freq. Response (-10dB 1kHz IN) 200 Hz	(R/P, SP)	dB	-2.0	-2.0±5.0
8 kHz	(R/P, SP)	dB	0	0±6.0

<Hi-Fi AUDIO>

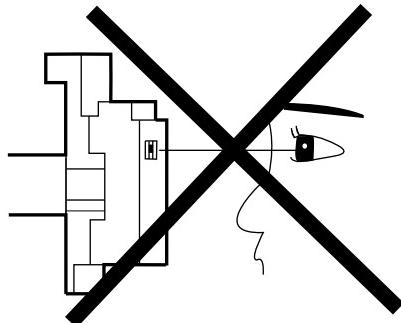
All items are measured at TP1701 and TP1702.

Description	Condition	Unit	Nominal	Limit
1. Output Level (-10dB 1kHz IN)	(R/P, SP)	dB	-8.0	-8±4
2. Audio Distortion (-10dB 1kHz IN)	(R/P, SP)	%	0.5	1.0
3. Freq. Response (-15dB 1kHz IN) 20 Hz	(R/P, SP)	dB	0	±4
20 kHz	(R/P, SP)	dB	0	±4

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

LASER BEAM SAFETY PRECAUTIONS

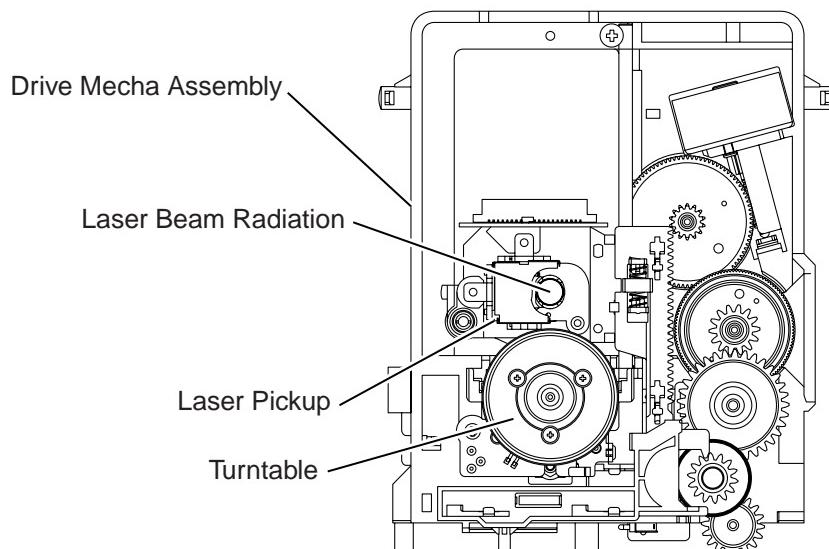
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

Caution: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Inside Top of DVD mechanism.

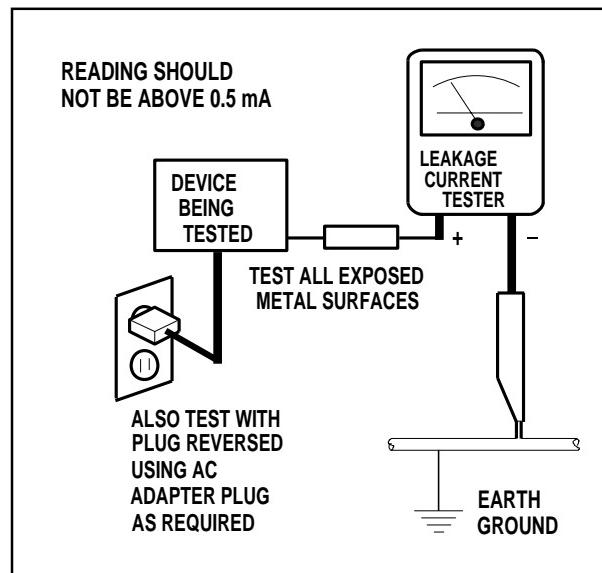
IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

- 1. Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:
 - a. Be sure that no built-in protective devices are defective and have been defeated during servicing.** (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.** Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.
 - b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage.** Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.
 - c. Antenna Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
 - d. Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage

current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

- e. X-Radiation and High Voltage Limits** - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servic-

ing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. Design Alteration Warning - Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. Picture Tube Implosion Protection Warning - The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

5. Hot Chassis Warning -

a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known

earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

- b.** Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
- c.** Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
- 6.** Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
- 7.** Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
- 8. Product Safety Notice** - Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a () on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

- A. Parts identified by the () symbol are critical for safety.
Replace only with part number specified.
- B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- D. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers
 - 4) Insulators for transistors.
- E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
- G. Check that replaced wires do not contact sharp edged or pointed parts.

- H. When a power cord has been replaced, check that 5–6 kg of force in any direction will not loosen it.
- I. Also check areas surrounding repaired locations.
- J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector

When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.

Replacement procedure

- 1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector (discard it).
- 2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
- 3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
- 4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.
- L. When connecting or disconnecting the TV/DVD connectors, first, disconnect the AC plug from AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
110 to 130 V	USA or CANADA	$\geq 3.2 \text{ mm}$ (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z . See Fig. 2 and following table.

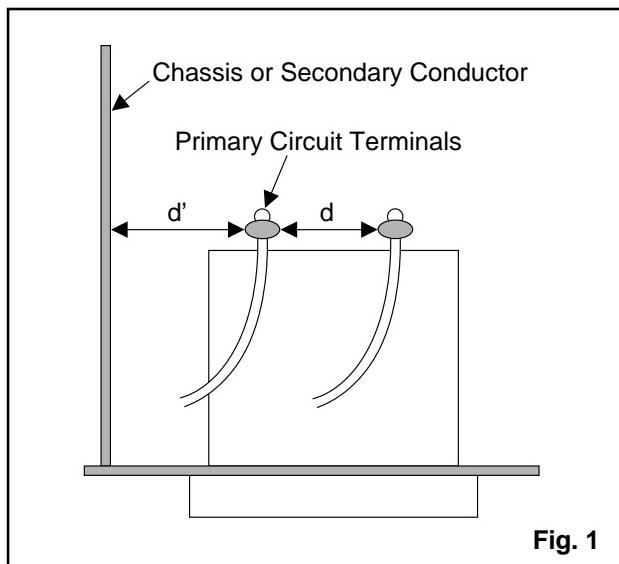


Fig. 1

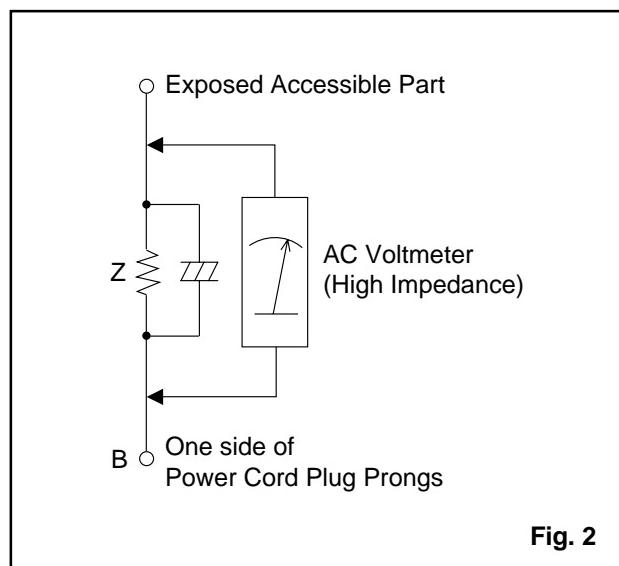


Fig. 2

Table 2: Leakage current ratings for selected areas

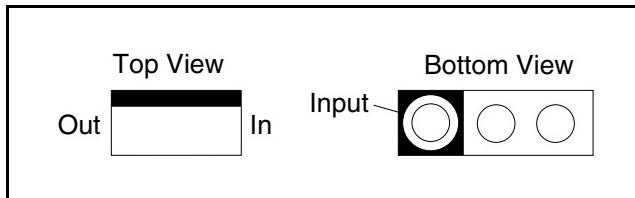
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	USA or CANADA	0.15μF CAP. & 1.5kΩ RES. connected in parallel	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

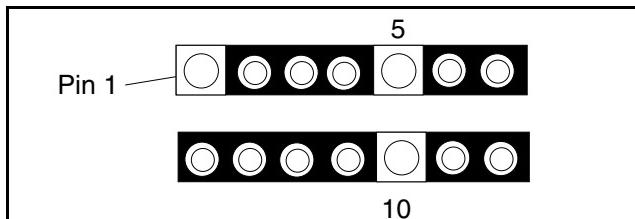
STANDARD NOTES FOR SERVICING

Circuit Board Indications

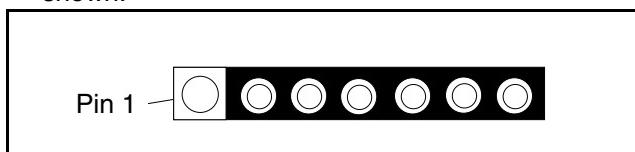
1. The output pin of the 3 pin Regulator ICs is indicated as shown:



2. For other ICs, pin 1 and every 5th pin is indicated as shown:

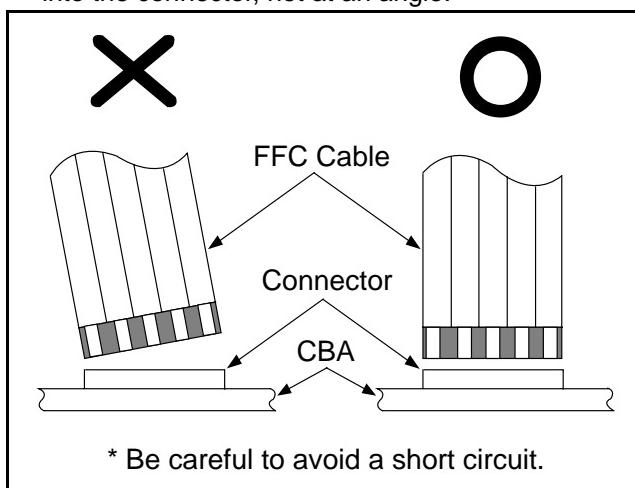


3. The 1st pin of every pin connector are indicated as shown:



Instructions for Connectors

1. When you connect or disconnect FFC cable (connector), be sure to disconnect the AC cord.
2. FFC cable (connector) should be inserted parallel into the connector, not at an angle.



[CBA= Circuit Board Assembly]

How to Remove / Install Flat Pack IC

Caution:

3. Do not apply the hot air to the chip parts around the Flat Pack-IC for over 6 seconds as damage may occur to the chip parts. Put Masking Tape around the Flat Pack-IC to protect other parts from damage. (Fig. S-1-2)
4. The Flat Pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or solder lands under the IC when removing it.

1. Removal

With Hot - Air Flat Pack - IC Desoldering Machine:

- a. Prepare the Hot - Air Flat Pack - IC Desoldering Machine, then apply hot air to Flat Pack - IC (about 5~6 seconds). (Fig. S-1-1)
- b. Remove the Flat Pack- IC with tweezers while applying the hot air.

With Soldering Iron:

- a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)
- b. Lift each lead of the Flat Pack - IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air Desoldering Machine. (Fig. S-1-4)

With Iron Wire:

- a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)
- b. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
- c. Pull up on the wire as the solder melts so as to lift the IC leads from the CBA contact pads, while heating the pins using a fine tip soldering iron or hot air blower.

Note:

When using a soldering iron, care must be taken to ensure that the Flat Pack - IC is not being held by glue, or when it is removed from the CBA, it may be damaged if force is used.

2. Installation

- a. Using desoldering braid, remove the solder from the foil of each pin of the Flat Pack - IC on the CBA, so you can install a replacement Flat Pack - IC more easily.

- b. The "●" mark on the Flat Pack - IC indicates pin 1 (See Fig. S-1-6). Make sure this mark matches the 1 on the CBA when positioning for installation. Then pre - solder the four corners of the Flat Pack-IC (See Fig. S-1-7).
- c. Solder all pins of the Flat Pack - IC. Make sure that none of the pins have solder bridges.

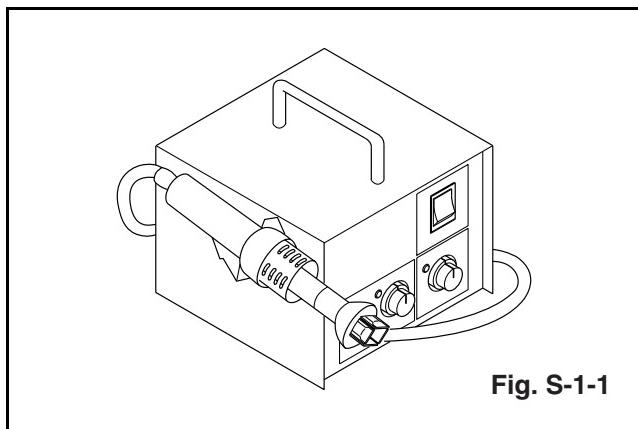


Fig. S-1-1

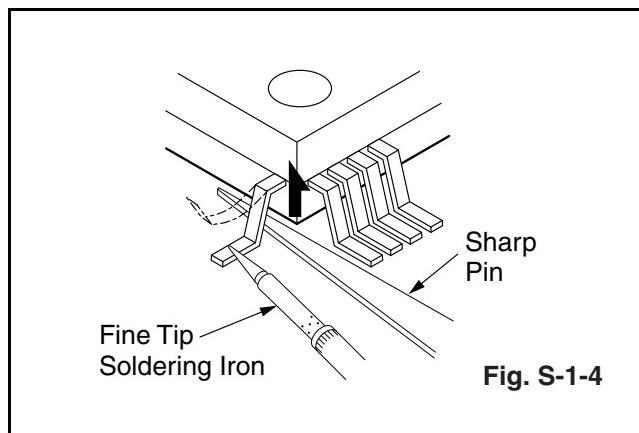


Fig. S-1-4

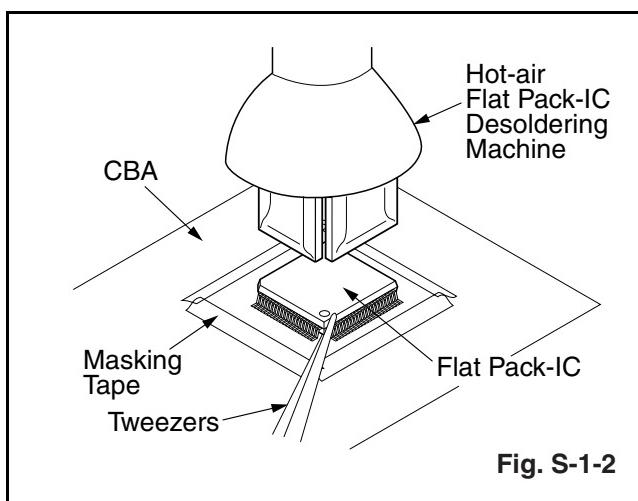


Fig. S-1-2

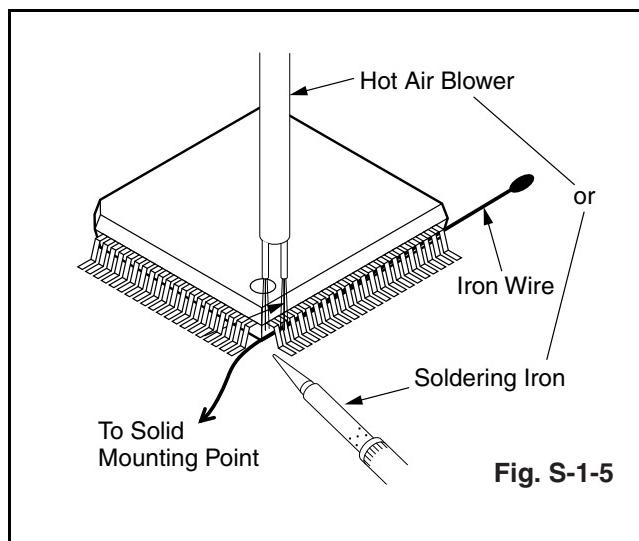


Fig. S-1-5

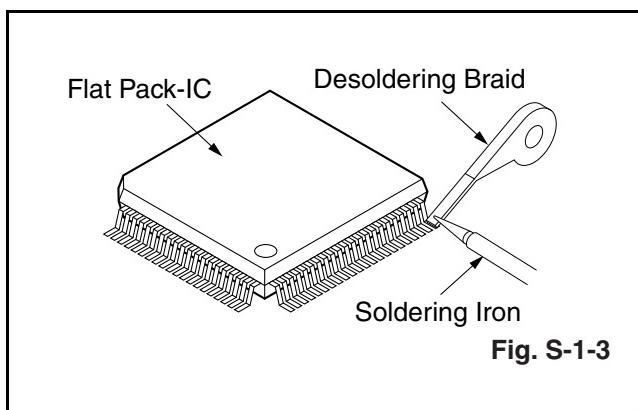
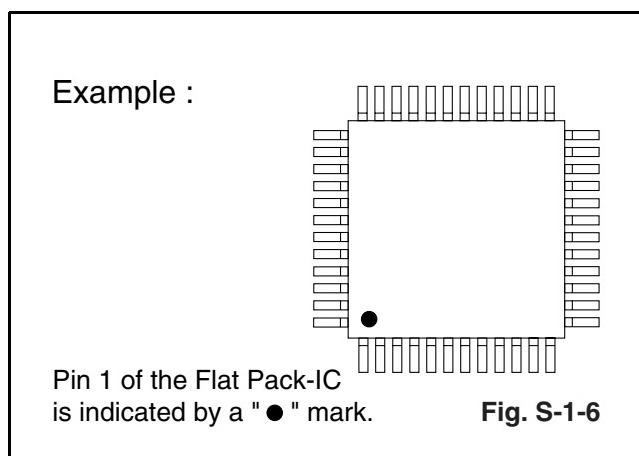


Fig. S-1-3



Pin 1 of the Flat Pack-IC
is indicated by a "●" mark.

Fig. S-1-6

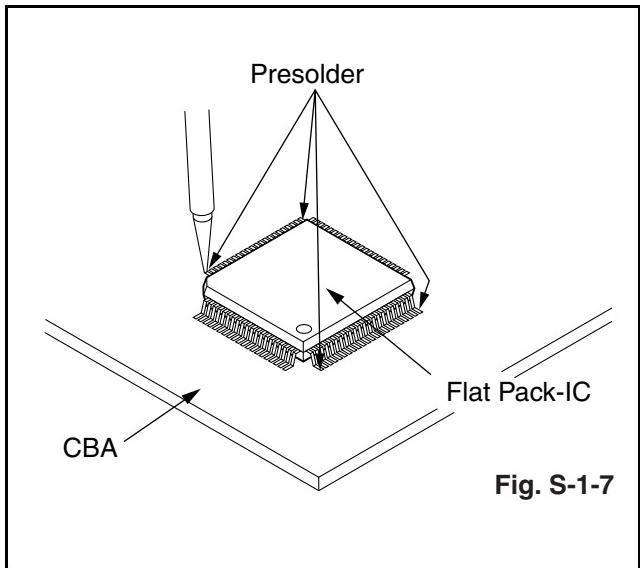


Fig. S-1-7

Instructions for Handling Semiconductors

Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

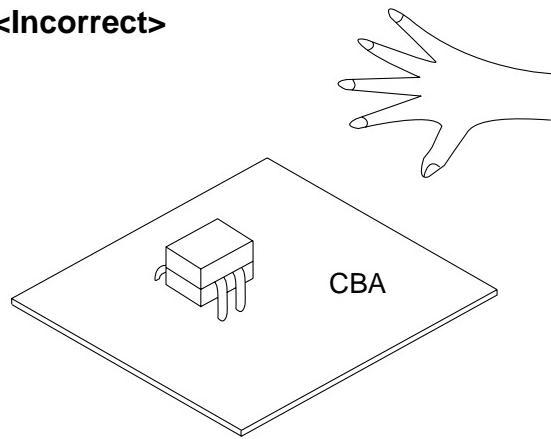
Ground for Human Body

Be sure to wear a grounding band ($1M\Omega$) that is properly grounded to remove any static electricity that may be charged on the body.

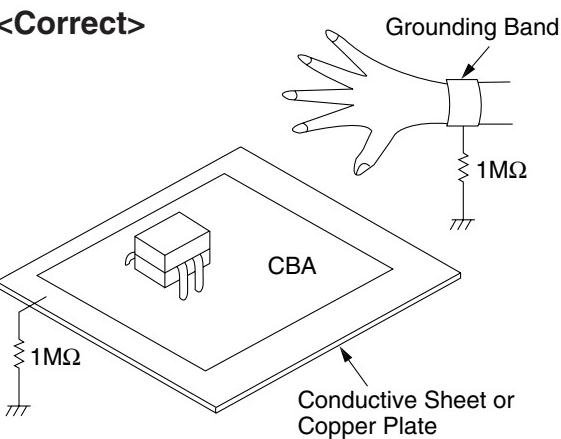
Ground for Work Bench

Be sure to place a conductive sheet or copper plate with proper grounding ($1M\Omega$) on the work bench or other surface, where the semiconductors are to be placed. Because the static electricity charge on the clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors to clothing.

<Incorrect>



<Correct>



PREPARATION FOR SERVICING

How to Enter the Service Mode

Caution: 1

- Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing: 1

- Cover Q202 (START SENSOR) and Q201 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

- Turn power on.
- Use service remote control unit and press DISC MENU key. (See page 1-8-1)
- When entering the service mode, one of the number (1, 2 or 4) will display at corners of the screen.
- During the service mode, electrical adjustment mode can be selected by remote control key. (Service remote control unit).

Details are as follows.

Key	Adjustment Mode
MENU	Picture adjustment mode: Press the MENU button to change from BRT (Bright), *CNT (Contrast), *COL (Color), *TNT(Tint) and *V-T. Press CH UP/DOWN key to display Initial Value. *Marked items are not necessary to adjust normally.
0	No need to use.
1	No need to use.
2	H adjustment mode: See adjustment instructions page 1-8-2.
3	No need to use.
4	Auto record mode: Perform recording (15 Sec.)-->Stop-->Rewind (Zero return) automatically.
5	Head switching point adjustment mode: See adjustment instructions page 1-8-5.
6	No need to use.
7	Purity check mode: Shows Red, Green, Blue or White cyclically on the screen each time the "7" key is pressed.

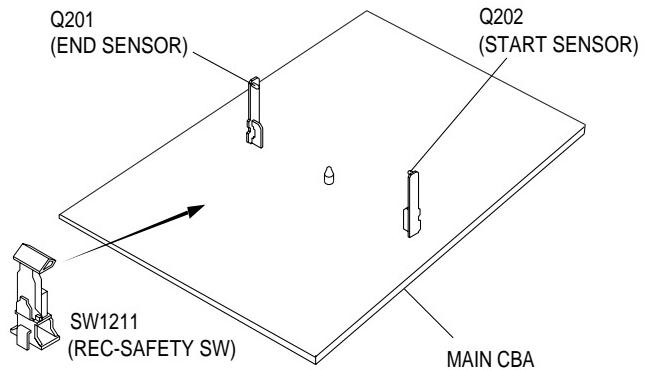
Key	Adjustment Mode
8	H. Shift adjustment mode: See adjustment instructions page 1-8-3.
9	V.size/V. shift adjustment: See adjustment instructions page 1-8-3.
VOL ▼	Cut-off Adjustment 1-8-3.

Caution: 2

- The deck mechanism assembly is mounted on the Main CBA directly, and SW1211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

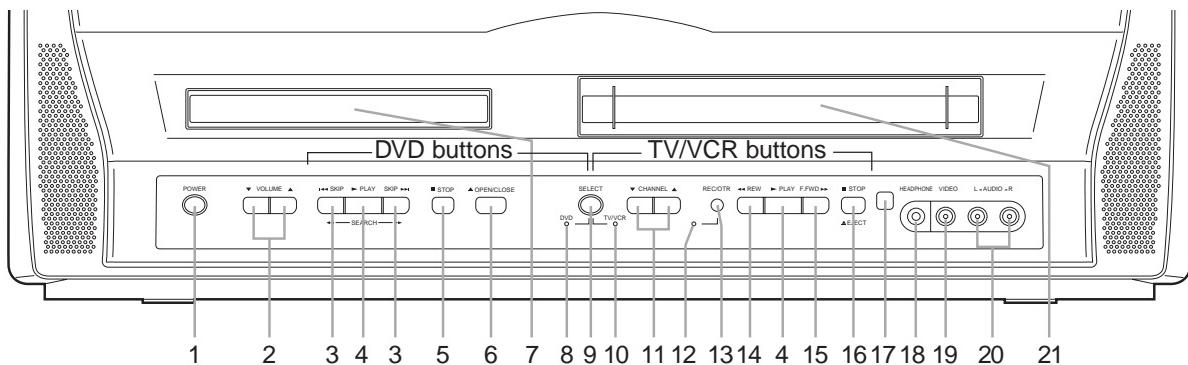
Preparing: 2

- To eject the tape, press the STOP/EJECT button on the unit (or Remote Control).
- When you want to record during the Service mode, press the Rec button while depressing SW1211 (REC-SAFETY SW) on the Main CBA.

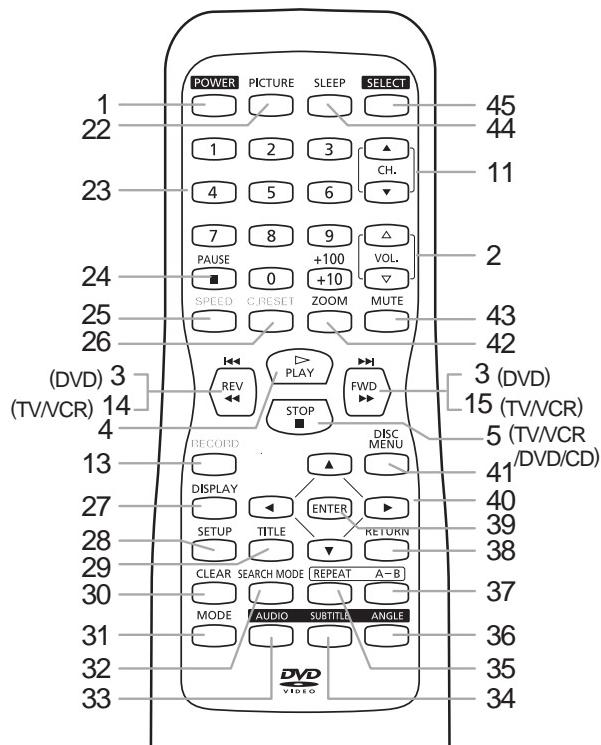


OPERATING CONTROLS AND FUNCTIONS

- TV/DVD/VCR FRONT PANEL - [Fig.1]



- REMOTE CONTROL - [Fig. 2]



1. POWER Button

Press to turn the power on and off.

2. VOLUME △/▽ Buttons

Press to control the volume level for the DVD and TV.

3. SKIP Buttons (for DVD)

Press once to skip chapters or tracks to a desired point.

Press and hold to change forward or reverse playback speed.

4. PLAY Button

Starts playback of the disc or tape contents.

5. STOP Button

Front panel

Press to stop the disc motion.

Remote Control

● DVD mode

Press to stop the disc motion.

● TV/VCR mode

Press to stop the tape motion.

6. OPEN/CLOSE Button

Press to insert discs into or remove them from the tray.

7. Disc loading tray

8. DVD Indicator

Lights on during DVD mode.

9. SELECT Button

Press to change to TV/VCR mode, external input mode or DVD mode.

10. TV/VCR Indicator

Lights on during TV/VCR mode.

11. CHANNEL ▲/▼ Buttons

Press to select memorized channel.

12. Recording Indicator

Flashes during recording. Lights up in the Standby mode for Timer Recording.

13. REC/OTR (RECORD)Button

Press for manual recording. Activates One Touch Recording. (OTR is only during TV/VCR mode.)

14. REW Button (for TV/VCR)

Press to rewind the tape, or to view the picture rapidly in reverse during playback mode. (Rewind Search)

15. FWD Button (for TV/VCR)

Press to rapidly advance the tape, or to view the picture rapidly in forward during playback mode. (Forward Search)

16. STOP/EJECT Button

Press to stop the tape motion. Press in the Stop mode to remove tape from the TV/VCR/DVD.

17. Remote sensor window

18. HEADPHONE Jack

To connect headphone (not supplied) for personal listening.

19. VIDEO input Jack

Connect to the video output jack of a video camera or VCR.

20. AUDIO L/R input Jacks

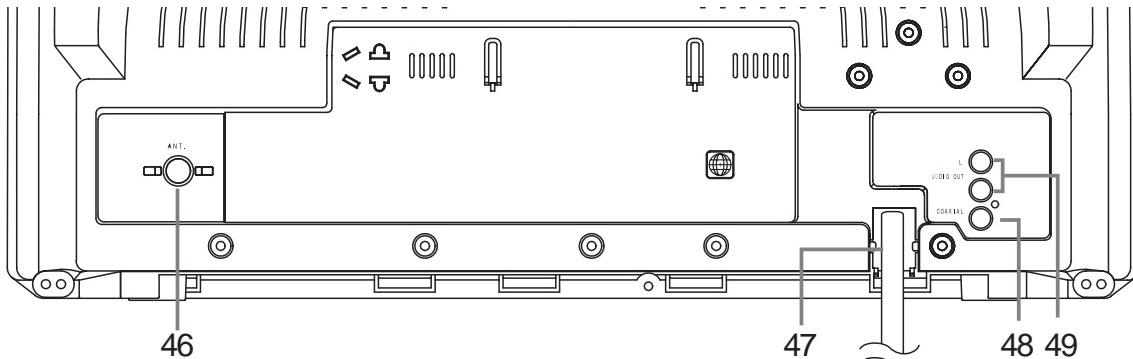
Connect to the audio output jacks of a video camera or VCR.

21. Cassette compartment

22. PICTURE Button

Press to adjust the picture.

- TV/DVD/VCR REAR PANEL - [Fig.3]



23. Number Buttons

TV Mode:

Press two digits to directly access the desired channel.

Remember to press a "0" before a single digit channel.

+100 Button-

Press to select cable channels which are equal or greater than number 100.

DVD Mode:

Press to enter the desired number.

+10 Button-

Press to enter the desired numbers which are equal or greater than number 10.

24. PAUSE Button

Pauses the current disc or tape operation.

25. SPEED Button

Press to choose the desired recording speed:
SP/SLP.

26. C.RESET Button

Press to reset counter to 0:00:00.

Press to cancel a setting of timer program.

27. DISPLAY Button

TV/VCR Mode:

Display the counter or the current channel number and current time on the TV screen.

DVD Mode:

Displays the current status on the TV screen for checking purposes.

28. SETUP Button

Press to enter or exit the TV menu or DVD setup mode.

29. TITLE Button

Displays the title menu.

30. CLEAR Button

Resets a setting.

31. MODE Button

Activates program playback or random playback mode.

32. SEARCH MODE Button

Press to locate a desired point.

33. AUDIO Button

Press to select a desired audio language or sound mode.

34. SUBTITLE Button

Press to select a desired subtitle language.

35. REPEAT Button

Repeats playback of the current disc, title, chapter or track.

36. ANGLE Button (DVD mode)

Press to change the camera angle to see the sequence being played back from a different angle.

37. A-B REPEAT Button

Repeats playback of a selected section.

38. RETURN Button

Returns to the previous operation in the DVD setup mode.

39. ENTER Button

Press to accept a setting.

40. Arrow Buttons

TV/VCR Mode:

Press to select a setting mode from the menu on the TV screen.

Press to select or adjust from a particular menu.

DVD Mode:

Use when making settings while watching the display on a TV screen.

41. DISC MENU Button

Displays the menus in the DVD.

42. ZOOM Button

Enlarges part of a DVD-reproduced image.

43. MUTE Button

Mutes the sound. Press it again to resume sound.

44. SLEEP Button

Sets the Sleep Timer.

45. SELECT Button

Press to switch TV/VCR and DVD mode. You can see the mode (TV/VCR or DVD) on the front panel indicator.

46. ANT. in Jack

Connect to an antenna, cable system, or satellite system.

47. Power cord

Connect to a standard AC outlet (120V/60Hz).

NOTE: Remove the power cord from the hook to avoid breaking a wire before you connect to a standard AC outlet.

48. COAXIAL digital audio out Jack

Connect to the digital input of an external amplifier or decoder for DVD audio only.

49. AUDIO L/R output Jack

Connect to the analog audio input of an external amplifier or decoder.

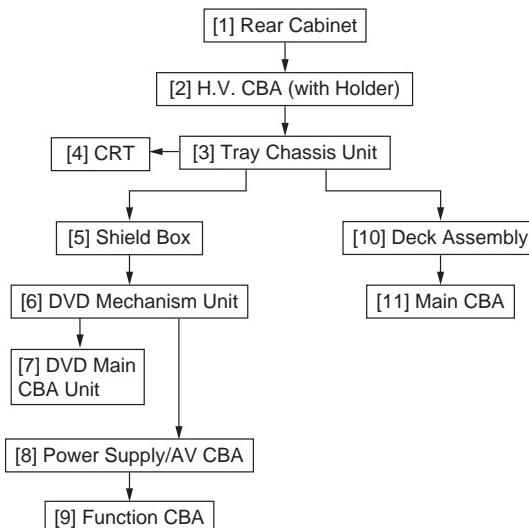
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[1]	Rear Cabinet	1	4(S-1), 1(S-2), 1(S-3)	-
[2]	H.V. CBA (With Holder)	2, 3, 5	Anode Cap, CN501, CRT CBA, CN571, CN1301, CN2602	1
[3]	Tray Chassis Unit	2, 5	CN1802, CN2801, CN2601	-
[4]	CRT	3	4(S-4)	-
[5]	Shield Box	2	5(S-5)	-
[6]	DVD Mechanism Unit	2, 5	CN2401, CN2402, 3(S-6)	-

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[7]	DVD Main CBA Unit	4	2(S-7), CN201, CN301	2-1 2-2 3
[8]	Power Supply/ AV CBA	2, 5	4(S-8), CN2803, CN2804	-
[9]	Function CBA	2, 5	3(S-9), CN2805	-
[10]	Deck Assembly	2, 5	7(S-10), 1(S-11), 1(S-12), CL1201, CL1401, CL1402, CL1403	4
[11]	Main CBA	2	4(S-13)	-

(1): Order of steps in Procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in Figures.

(2): Parts to be removed or installed.

(3): Fig. No. showing Procedure of Part Location.

(4): Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

S=Screw, P=Spring, L=Locking Tab, CN=Connector, * =Unhook, Unlock, Release, Unplug, or Desolder

2(S-2) = two Screw (S-2)

(5): Refer to the following "Reference Notes in the Table."

Reference Notes in the Table

Caution !

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

Reference Notes in the Table

CAUTION 1: Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

1. Disconnect the following: Anode Cap, CN501, CRT CBA, CN571, CN2602, and CN1301.
Then remove H.V. CBA (with Holder).

CAUTION 2: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.

To avoid damage of pickup follow these procedures.

- 2-1. Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. 4)

- 2-2. Disconnect connector (CN301). Remove two screws (S-7) and lift the DVD Main CBA Unit. (Fig. 4)

CAUTION 3: When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. 4)

4. Remove screws 7(S-10), 1(S-11), and 1(S-12). Then, desolder connectors (CL1201, C1401, CL1402, CL1403) and lift up the Deck Assembly.

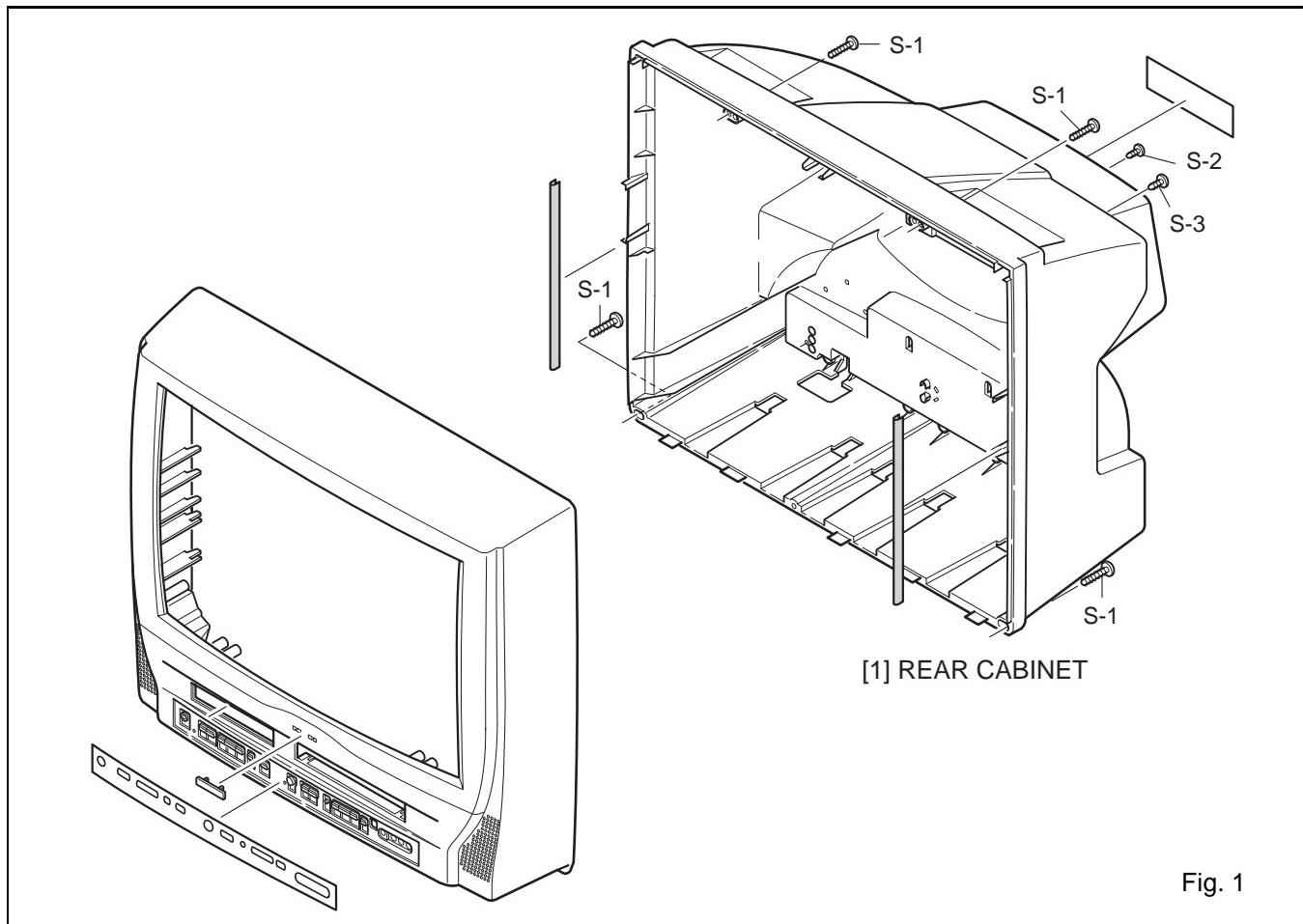


Fig. 1

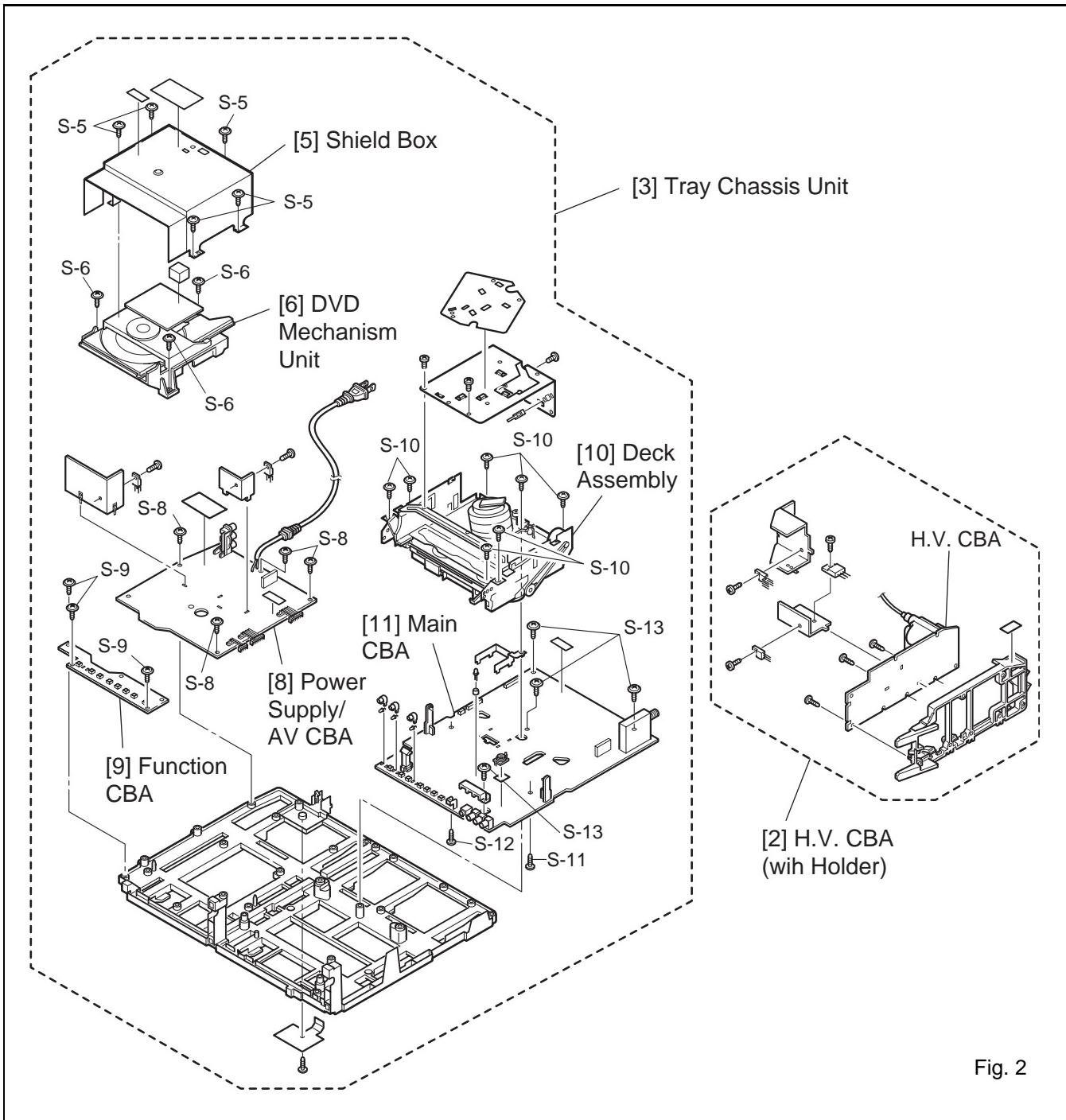


Fig. 2

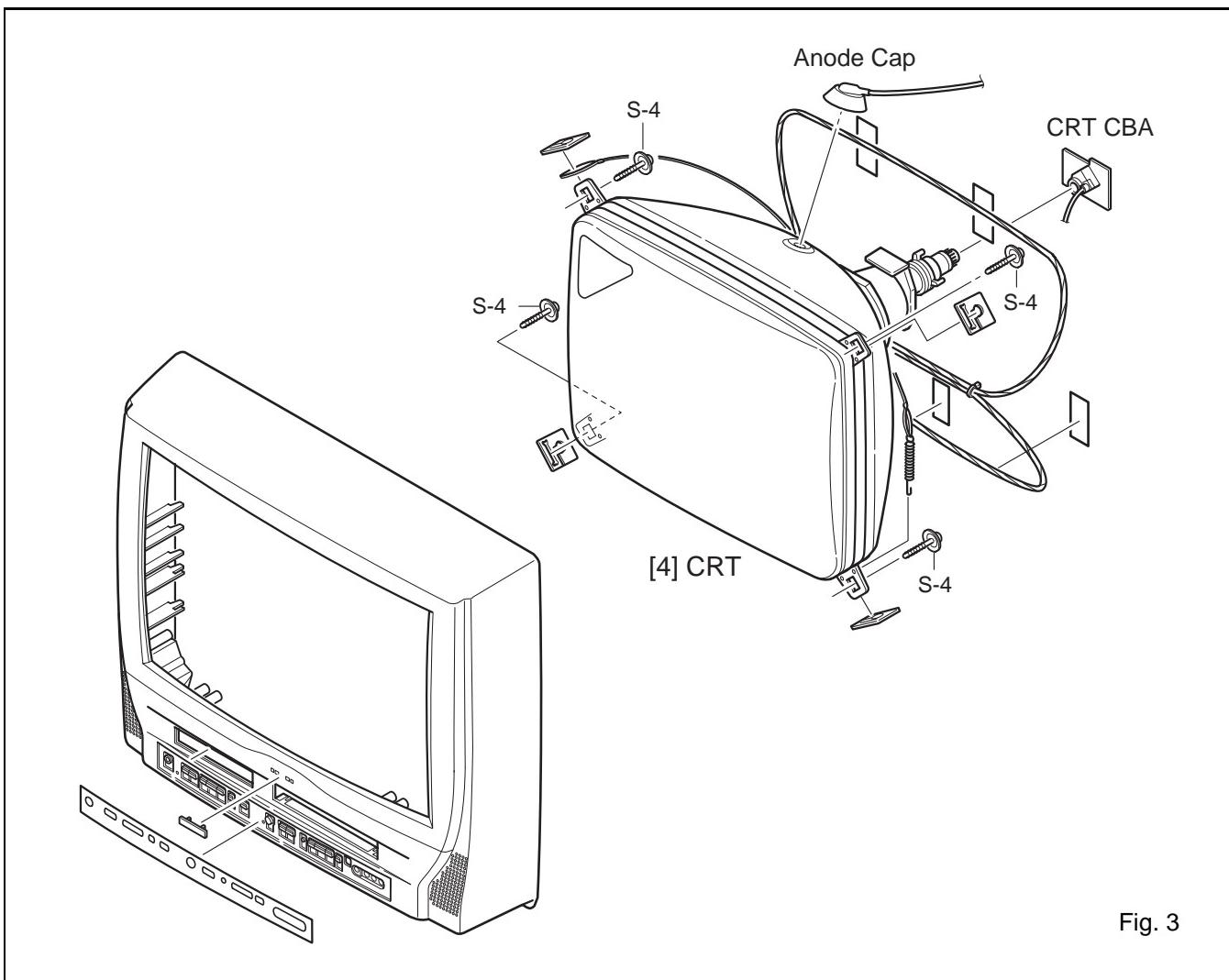
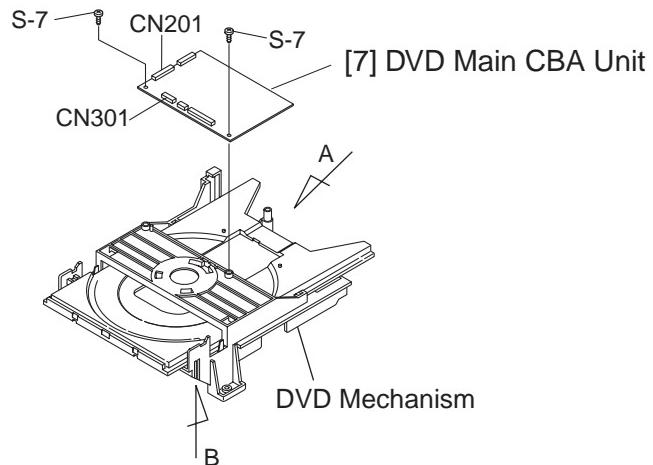
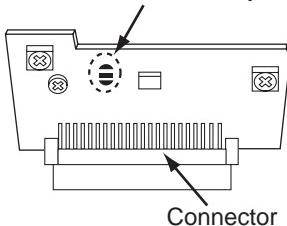


Fig. 3

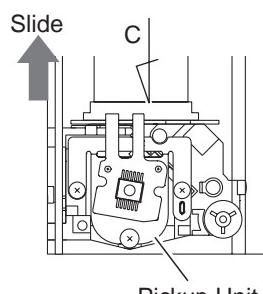


Short the three short lands by soldering



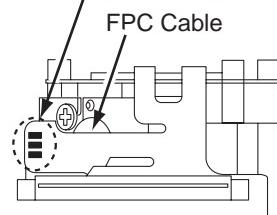
View for A

OR



View for B

Short the three short lands by soldering



View for C

Fig. 4

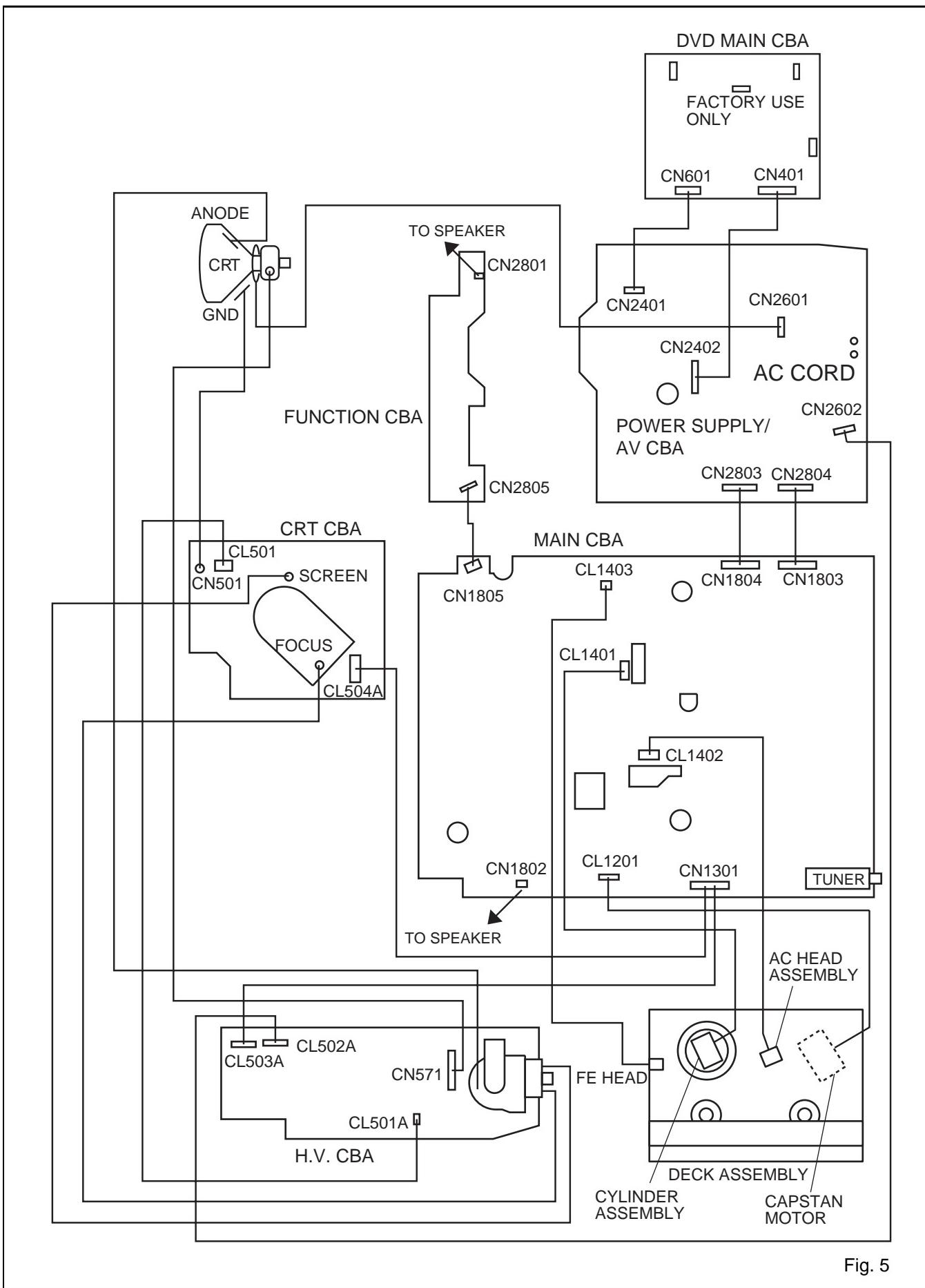


Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:

"CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed.

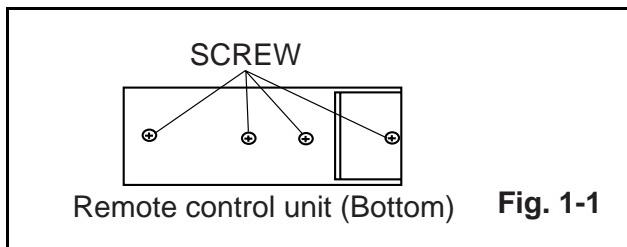
Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (FL8A, FL8N), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe,
V-Range: 0.001~50V/Div,
F-Range: DC~AC-60MHz
6. Frequency Counter
7. Plastic Tip Driver

How to make service remote control unit:

1. Prepare normal remote control unit (Part No. NE200UD). Remove 4 screws from the back lid (Fig. 1-1).



2. Cut off pin 10 of the remote control microprocessor and short circuit pins 10 and 17 of the microprocessor with a jumper wire

How to Set up the Service mode:

Service Mode:

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. To enter the TV mode, press CH UP or CH DOWN button on the TV unit.
4. Press "DISC MENU" button on the service remote control unit. (Version of micro computer will display on the CRT. (Ex: 057-001)

X-Ray Protection Test

X-Ray protection test should be done when replacing any parts of this chassis.

1. Short test points J520 and J522 (on H.V. CBA).
2. Confirm that the main power turns off.
3. If the main power does not turn off, then replace the following parts (D591, Q591, R592, R593, R594 and IC1201).
4. Perform steps 1 to 3 again.

1. DC 114V (+B) Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test point	Adj. Point	Mode	Input
J521 (+B) J535 (GND)	VR2601	---	-----
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+114±0.5V DC	

Note: J521(+B), J535(GND) --- H.V. CBA,
VR2601 --- Power Supply/AV CBA

1. Connect the unit to AC Power Outlet.
2. Connect DC Volt Meter to J521(+B) and J535(GND).
3. Adjust VR2601 so that the voltage of J521(+B) becomes $+114\pm0.5V$ DC.

2. H Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test point	Adj. Point	Mode	Input
R583	CH ▲ / ▼ buttons	Video	---
Tape	M. EQ.	Spec.	
---	Frequency Counter	15.734kHz±300Hz	

Note: R583 --- H.V. CBA

1. Connect Frequency Counter to R583.
2. Operate the unit for at least 20 minutes.
3. Enter the Service mode. (See page 1-8-1.) Press "2" button on the remote control unit and select H-ADJ Mode.
4. Press CH ▲ / ▼ buttons on the remote control unit so that the display will change "0" to "7."
5. At this moment, choose display "0" to "7" when the Frequency counter display is closest to 15.734kHz±300Hz.
6. Turn the power off and on again.

3. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test point	Adj. Point	Mode	Input
D1304 (Cathode) (B-OUT)	CH ▲ / ▼ buttons	---	Color Bar
Tape	M. EQ.	Spec.	
---	Oscilloscope Pattern Generator		---

Figure

Fig. 2

Note: D1304 (Cathode) (B-Out)--- Main CBA

1. Connect Oscilloscope to D1304 (Cathode).
2. Input a color bar signal from RF input.
Enter the Service mode. (See page 1-8-1.)
3. Press "0" button on the remote control unit and select C-TRAP Mode.
4. Press CH ▲ / ▼ buttons on the remote control unit so that the carrier leakage B-Out (3.58MHz) value becomes minimum on the oscilloscope.
5. Turn the power off and on again.

4. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.		Spec.
---	Pattern Generator		90±5%

1. Enter the Service mode. (See page 1-8-1.)
Press "9" button on the remote control unit and select V-S Mode. (Press "9" button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press CH ▲ / ▼ buttons on the remote control unit so that the monoscope pattern is 90±5% of display size and the circle is round.

5. V. Shift Adjustment

Purpose: To obtain correct vertical position of screen image.

Symptom of Misadjustment: If V. position is incorrect, vertical position of image on the screen may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.		Spec.
---	Pattern Generator		---

1. Enter the Service mode. (See page 1-8-1.)
Press "9" button on the remote control unit and select V-P Mode. (Press "9" button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press CH ▲ / ▼ buttons on the remote control unit so that the top and bottom of the monoscope pattern are equal to each other.

6. H. Shift Adjustment

Purpose: To obtain correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.		Spec.
---	Pattern Generator		---

1. Enter the Service mode. (See page 1-8-1.)
Press "8" button on the remote control unit and select H-P Mode.
2. Input monoscope pattern.
3. Press CH ▲ / ▼ buttons on the remote control unit so that the left and right side of the monoscope pattern are equal to each other.
4. Turn the power off and on again.

7. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test point	Adj. Point	Mode	Input
---	Screen-Control	Ext.	Black Raster / White Raster
Tape	M. EQ.		Spec.
---	Pattern Generator		See Reference Notes below

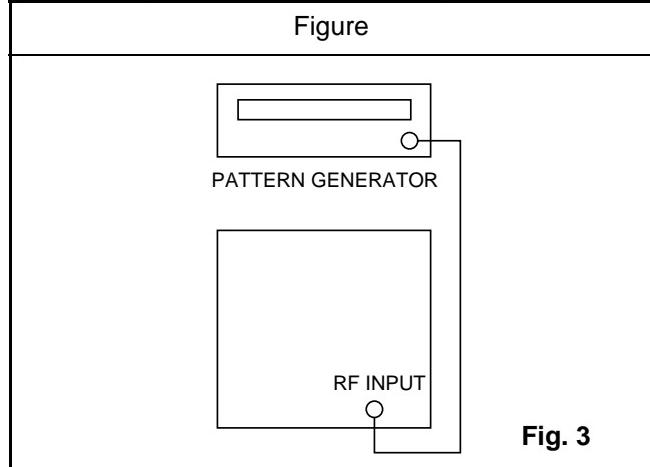


Fig. 3

Notes: Screen Control FBT --- H.V. CBA

FBT= Fly Back Transformer

Use the Remote Control Unit

1. Degauss the CRT and allow CRT to operate for 20 minutes before starting the alignment.
2. Input the Black raster signal from EXT. input.
3. Enter the Service mode. (See page 1-8-1.)
4. Press the "VOL ▼" button.
(Press "VOL ▼" then display will change CUT OFF/ DRIVE, 7Fh adjustment and DVD-KEY).
5. Choose CUT OFF/DRIVE mode then press "1" button. This adjustment mode is CUT OFF (R).
6. Increase the screen control so that the horizontal line just appears on the CRT.
7. Press the "CH ▲ / ▼" button until the horizontal line becomes white.
8. Choose CUT OFF/DRIVE mode then press "2" button. This adjustment mode is CUT OFF (G). Press "CH ▲ / ▼" until the horizontal line becomes white.
9. Choose CUT OFF/DRIVE mode then press "3" button. This adjustment mode is CUT OFF (B). Press "CH ▲ / ▼" until the horizontal line becomes white.
10. Choose CUT OFF/DRIVE mode then press "4" button.
11. Input the White Raster Signal from Video In.
12. Adjust the RED DRIVE as needed with the CH ▲ / ▼ buttons to get the following value, X= 286, Y= 294.
13. Choose CUT OFF/DRIVE mode then press "5." Adjust the BLUE DRIVE as needed with the CH ▲ / ▼ buttons to get the following value, X= 286, Y= 294.
14. Turn the power off and on again.

8. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	SMPTE 7.5IRE
Tape	M. EQ.		Spec.
---	Pattern Generator		See below

Figure

Fig. 4

Note: SMPTE Setup level --- 7.5 IRE

1. Enter the Service Mode. (See page 1-8-1.) Then input SMPTE signal from RF input.
2. Press PICTURE button. (Press PICTURE button then display will change BRT, CNT, COL, TNT, and V-T). Select BRT and press CH ▲ / ▼ buttons so that the bar is just visible (See above figure).
3. Turn the power off and on again.

9. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test point	Adj. Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Note: Focus VR (FBT) --- H.V. CBA

FBT= Fly Back Transformer

1. Operate the unit more than 30 minutes.
2. Face the unit to the East and degauss the CRT using a Degaussing Coil.
3. Input the monoscope pattern.
4. Adjust the Focus Control on the FBT to obtain clear picture.

10. SIF Adjustment

Purpose: To set the SIF (Sound Intermediate Frequency).

Symptom of Misadjustment: Audio may not sound correctly.

Note: This adjustment automatically done by the chrominance IC (IC1301).

11. CCS Text Box Location

Note: This adjustment automatically done by the microcomputer.

12. Head Switching Position Adjustment

Purpose: Determine the Head Switching Point during Playback.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

1. Playback test tape (FL8A, FL8N).
2. Enter the Service Mode. (See page 1-8-1.) Then press the number 5 button on the remote control unit.
3. The Head Switching position will display on the screen; if adjustment is necessary follow step 4. 6.5H(412.7μs) is preferable.

4. Press "CH ▲" or "CH ▼" button on the remote control unit if necessary. The value will be changed in 0.5H steps up or down. Adjustable range is up to 9.5H. If the value is beyond adjustable range, the display will change as:

Lower out of range: 0.0H
Upper out of range: -.H

5. Turn the power off and on again.

The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT then adjust as a preparation.

13. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	Red Color
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Figure

The diagram shows three vertical zigzag resistors arranged side-by-side. The leftmost resistor is labeled 'GREEN' at its left end. The middle resistor is labeled 'RED' at its right end. The rightmost resistor is labeled 'BLUE' at its right end. All three resistors are connected in series, with their top ends meeting at a single point and their bottom ends meeting at another point.

Fig. 5

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX Mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 6.)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 5,6.)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

14. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

Test point	Adj. Point	Mode	Input
---	C.P. Magnet (RB), C.P. Magnet (RB-G), Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	M. EQ.		Spec.
---	Pattern Generator		See below.

Figure

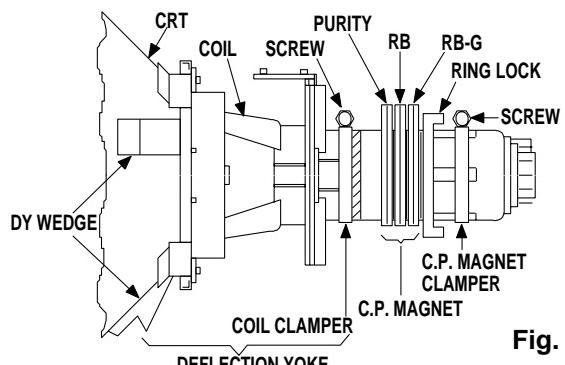


Fig. 6

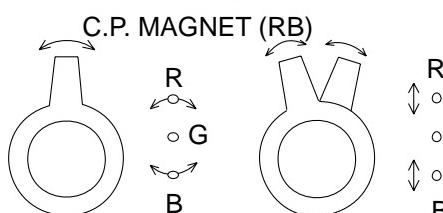


Fig. 7

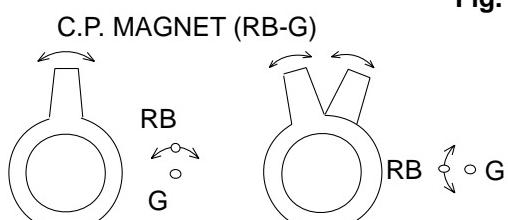


Fig. 8

1. Set the unit to the AUX Mode which is located before CH2, then input a Dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or Crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 7.)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 8.)
4. Fix the C.P. Magnets by tightening the Ring Lock.

FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD player into version up mode, press [9], [8], [7], [6], and [SEARCH MODE] buttons on the remote control unit in that order. The tray will open automatically.

Fig. a appears on the screen.

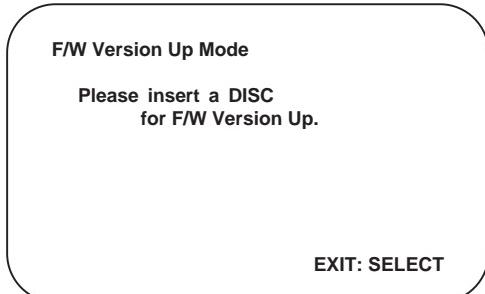


Fig. a Version Up Mode Screen

The DVD player can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The DVD player enters the F/W version up mode automatically. Fig. b appears on the screen.

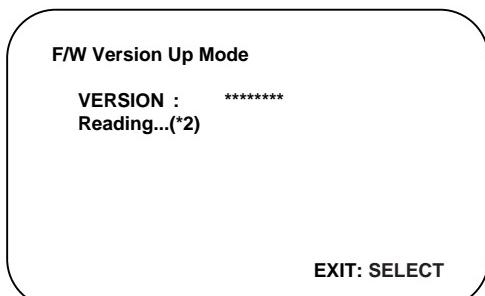


Fig. b Programming Mode Screen

The appearance shown in (*2) of Fig. b is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. c appears on the screen.

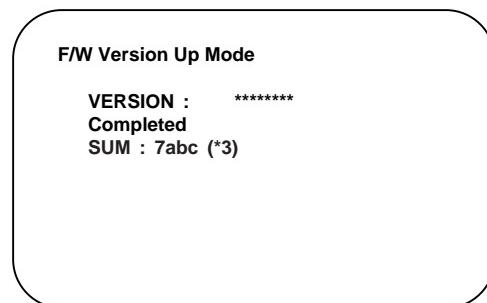


Fig. c Completed Program Mode Screen

At this time, no buttons are available.

6. Unplug the AC cord from the AC outlet. Then plug it again.
7. Turn the power on by pressing the power button and the tray will close.
8. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.

Fig. d appears on the screen.

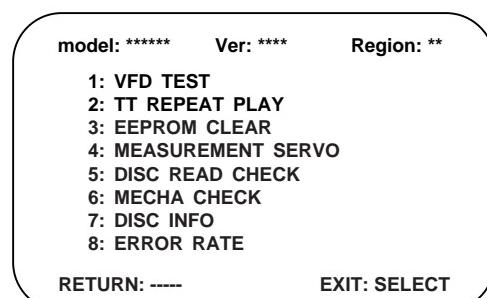


Fig. d

9. Press [3] button on the remote control unit. Fig. e appears on the screen.

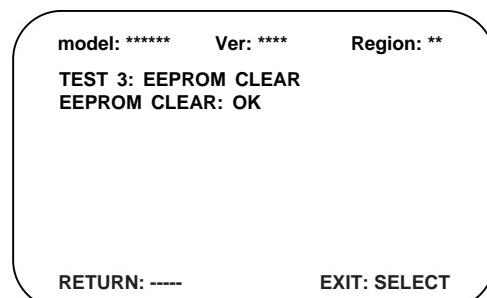
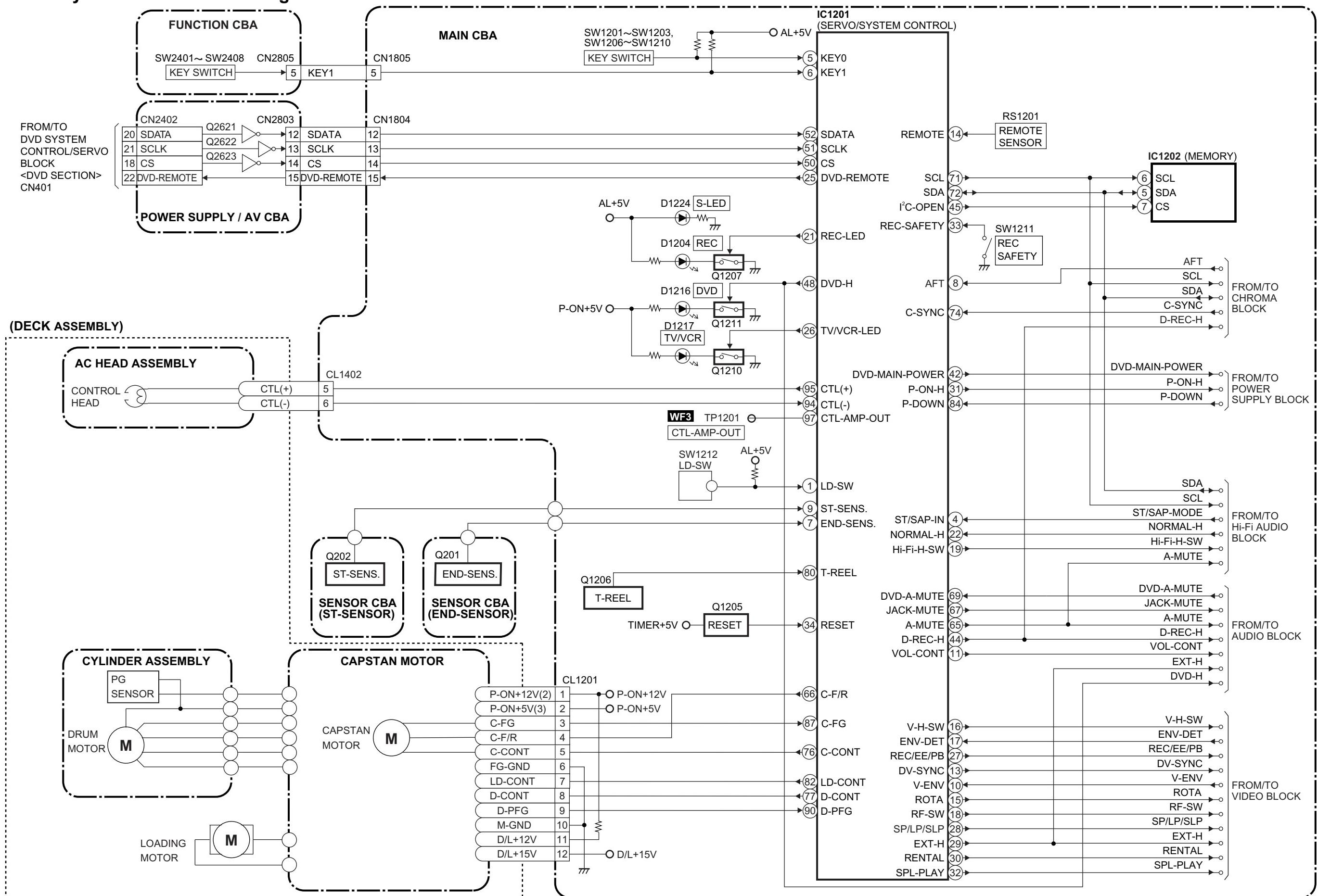


Fig. e

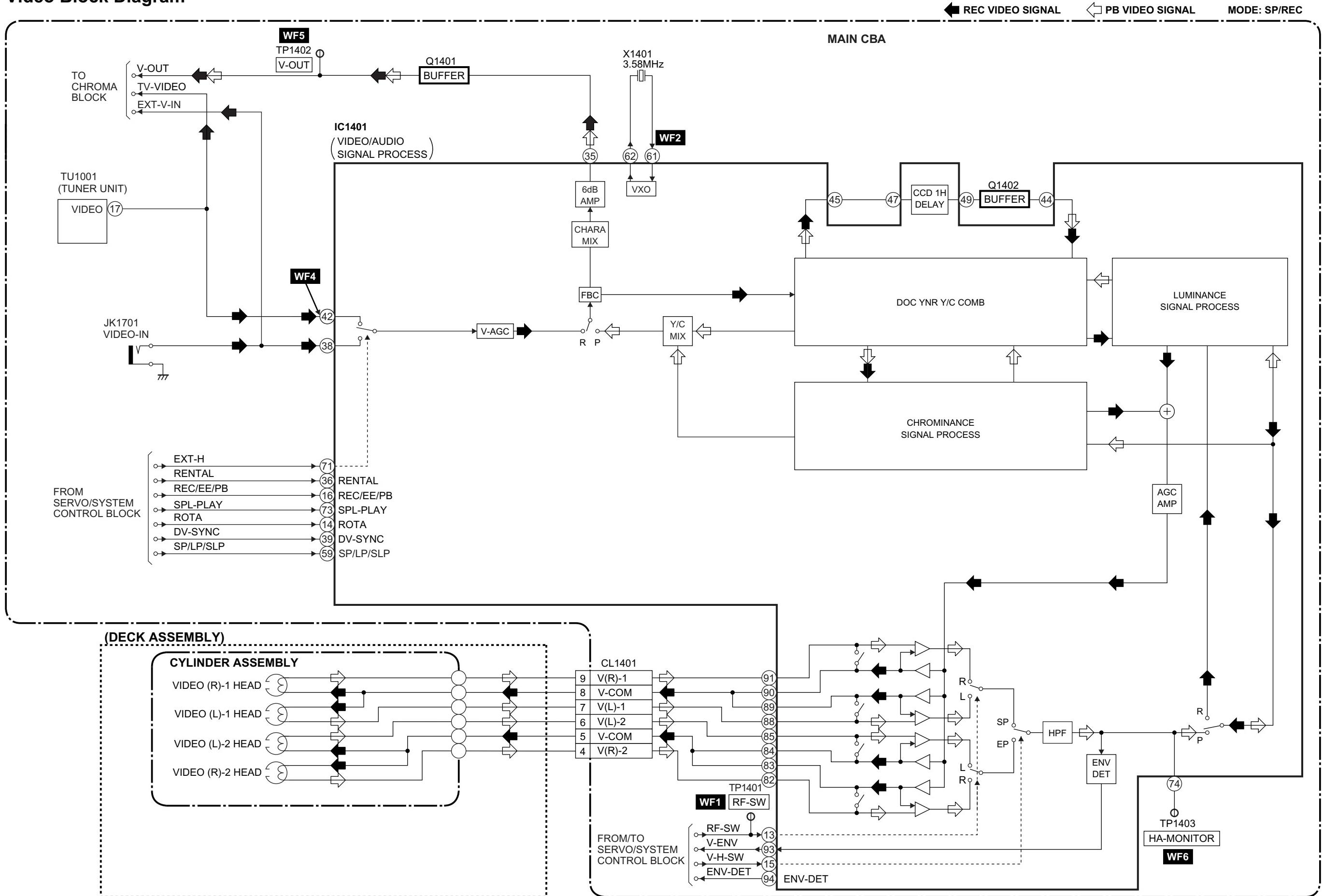
10. To finish this mode, press [POWER] button.

BLOCK DIAGRAMS <TV/VCR Section>

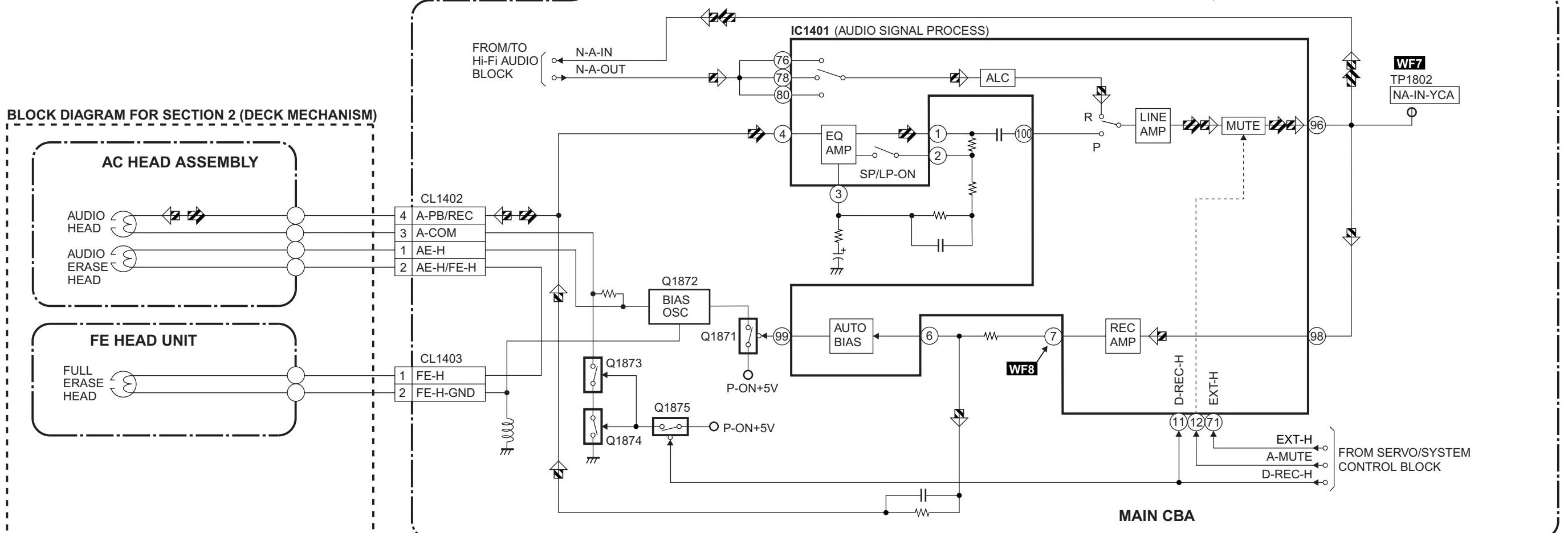
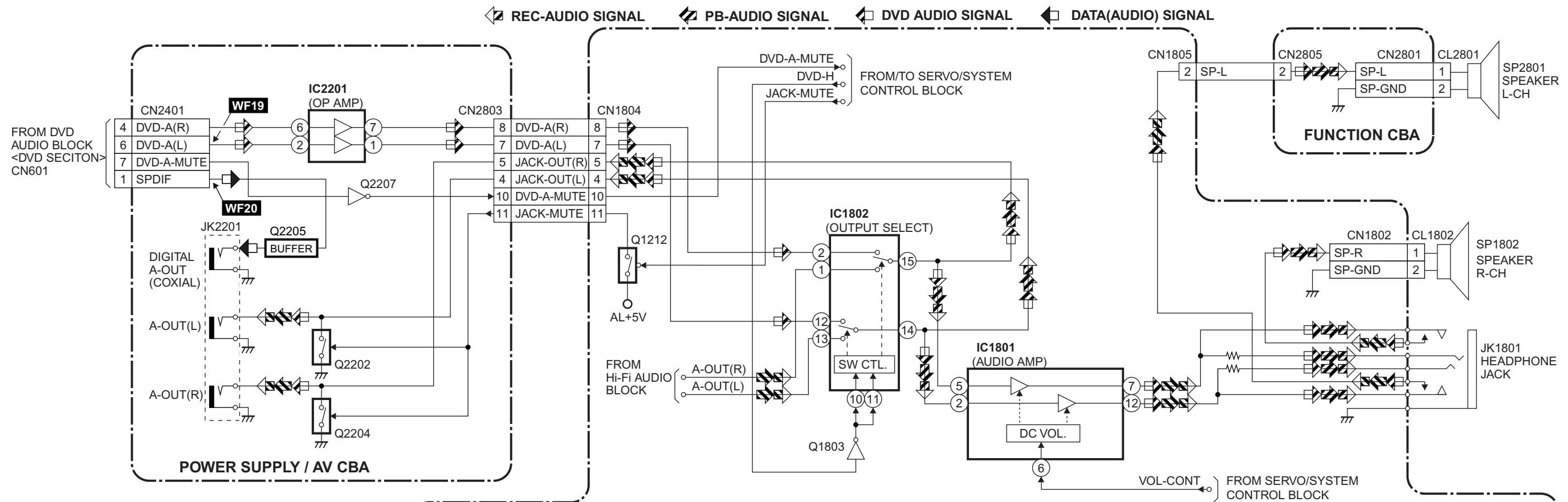
Servo/System Control Block Diagram



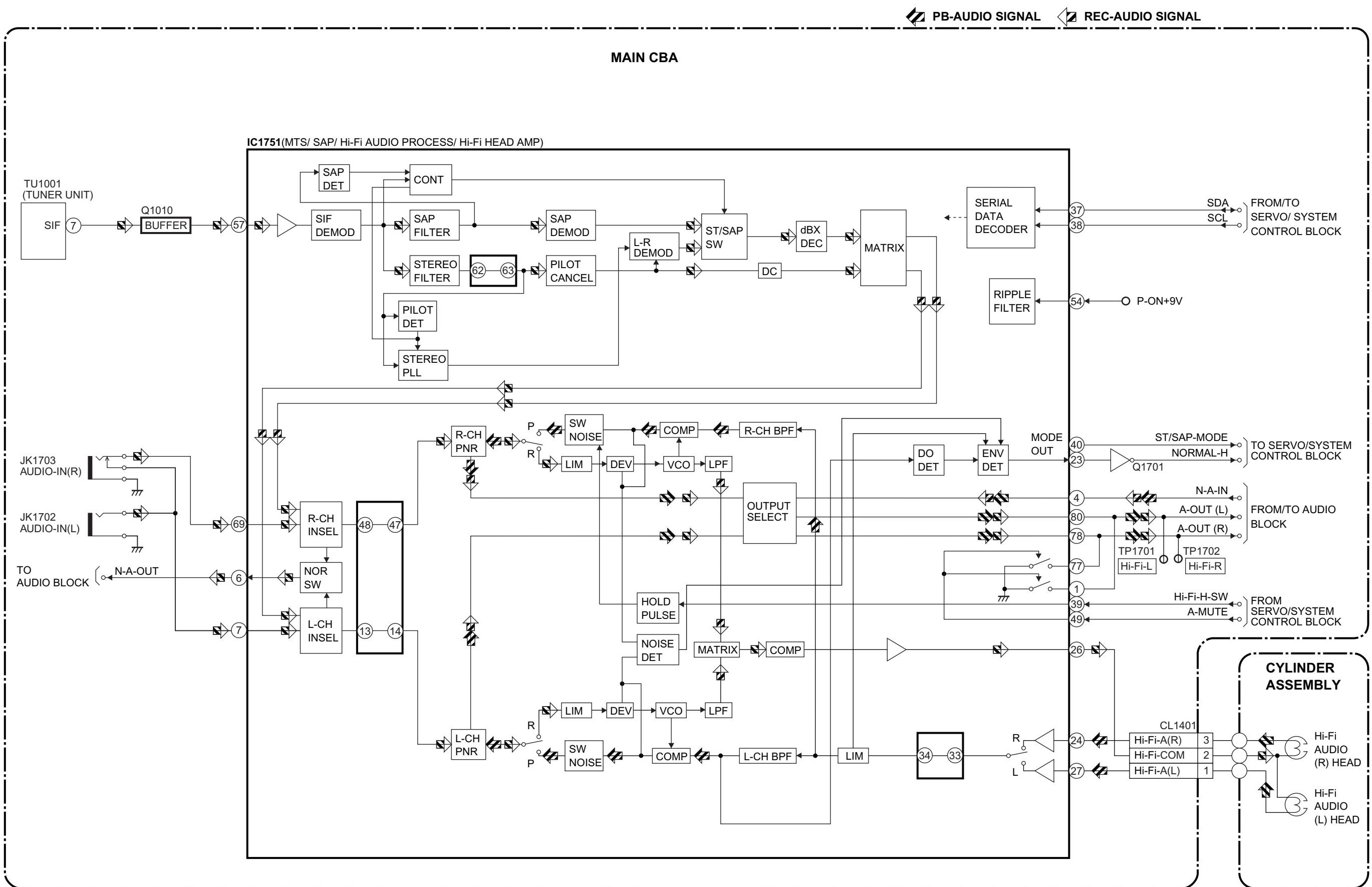
Video Block Diagram



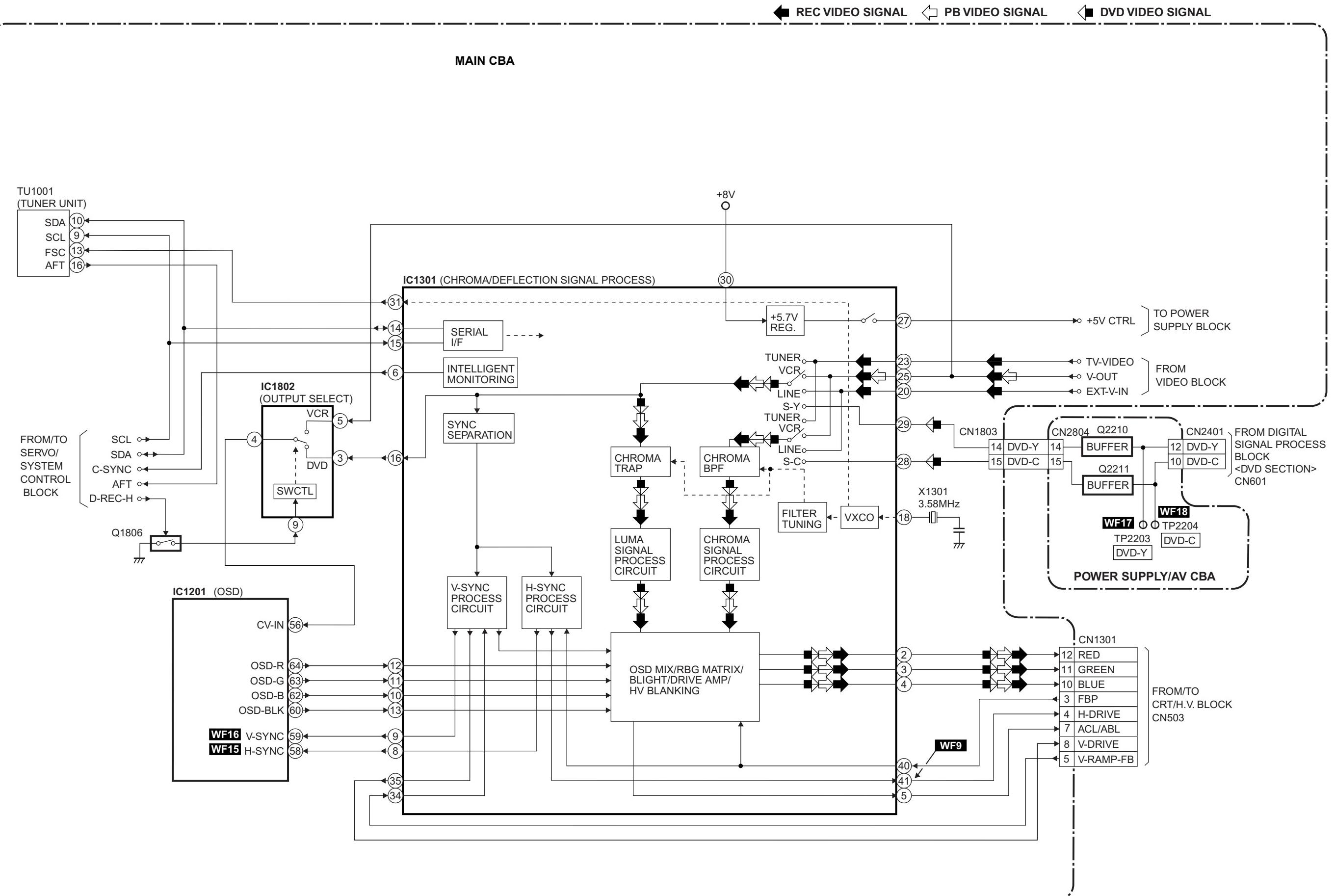
Audio Block Diagram



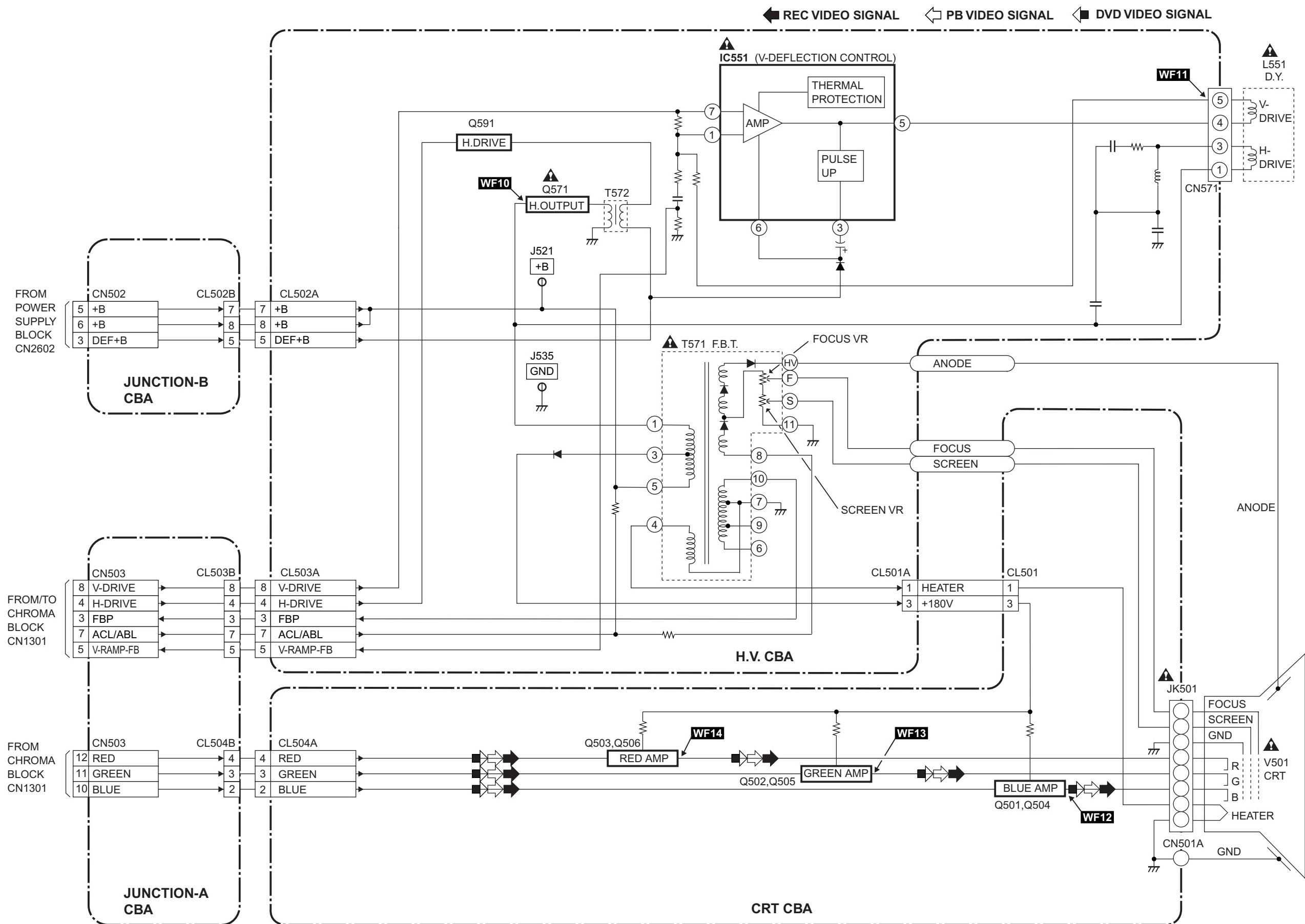
Hi-Fi Audio Block Diagram



Chroma Block Diagram



CRT/H.V. Block Diagram



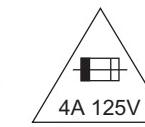
Power Supply Block Diagram

CAUTION !

Fixed voltage power supply circuit is used in this unit.

If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.

Otherwise it may cause some components in the power supply circuit to fail.

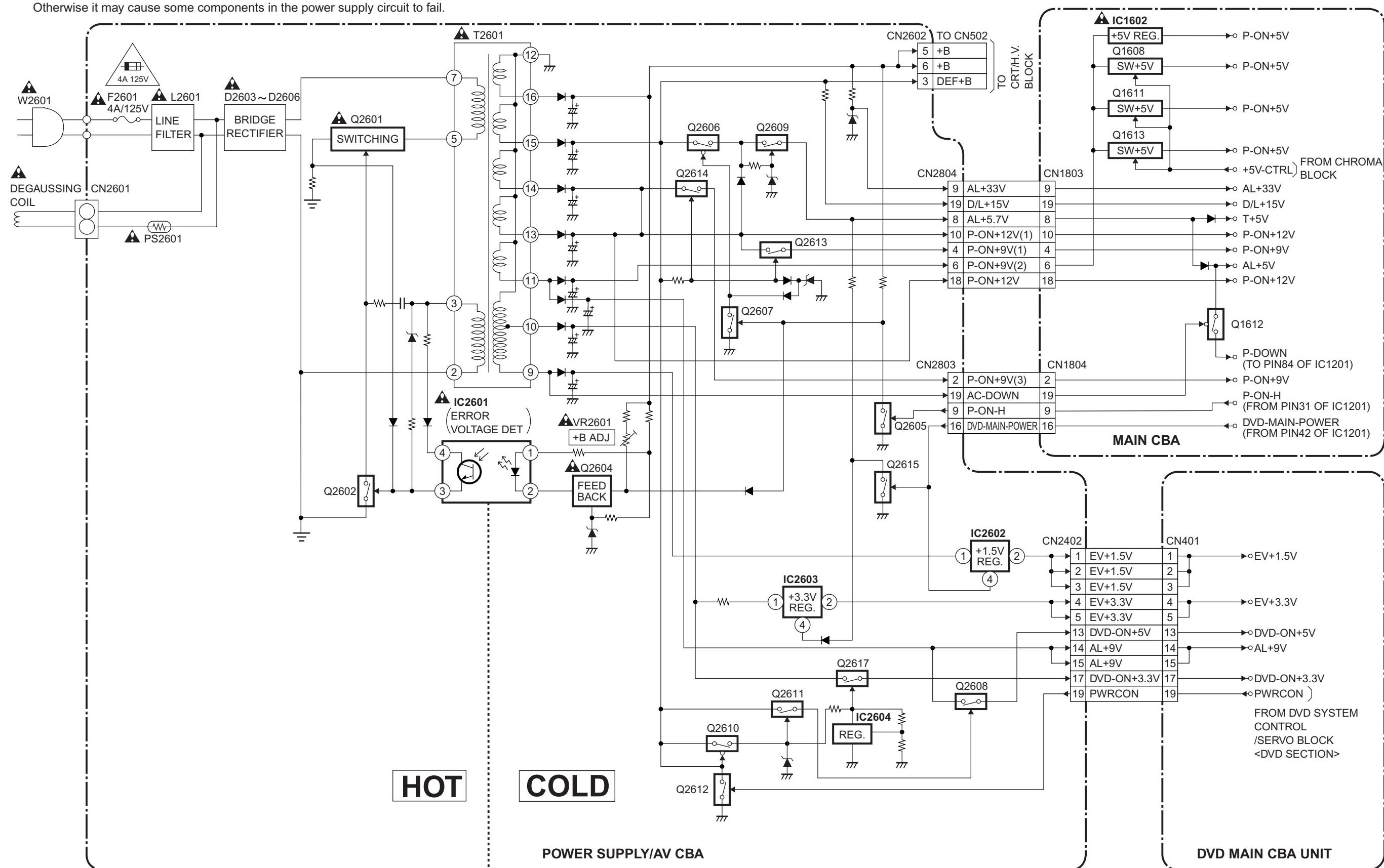


**CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE 4 A, 125V FUSE.**

ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

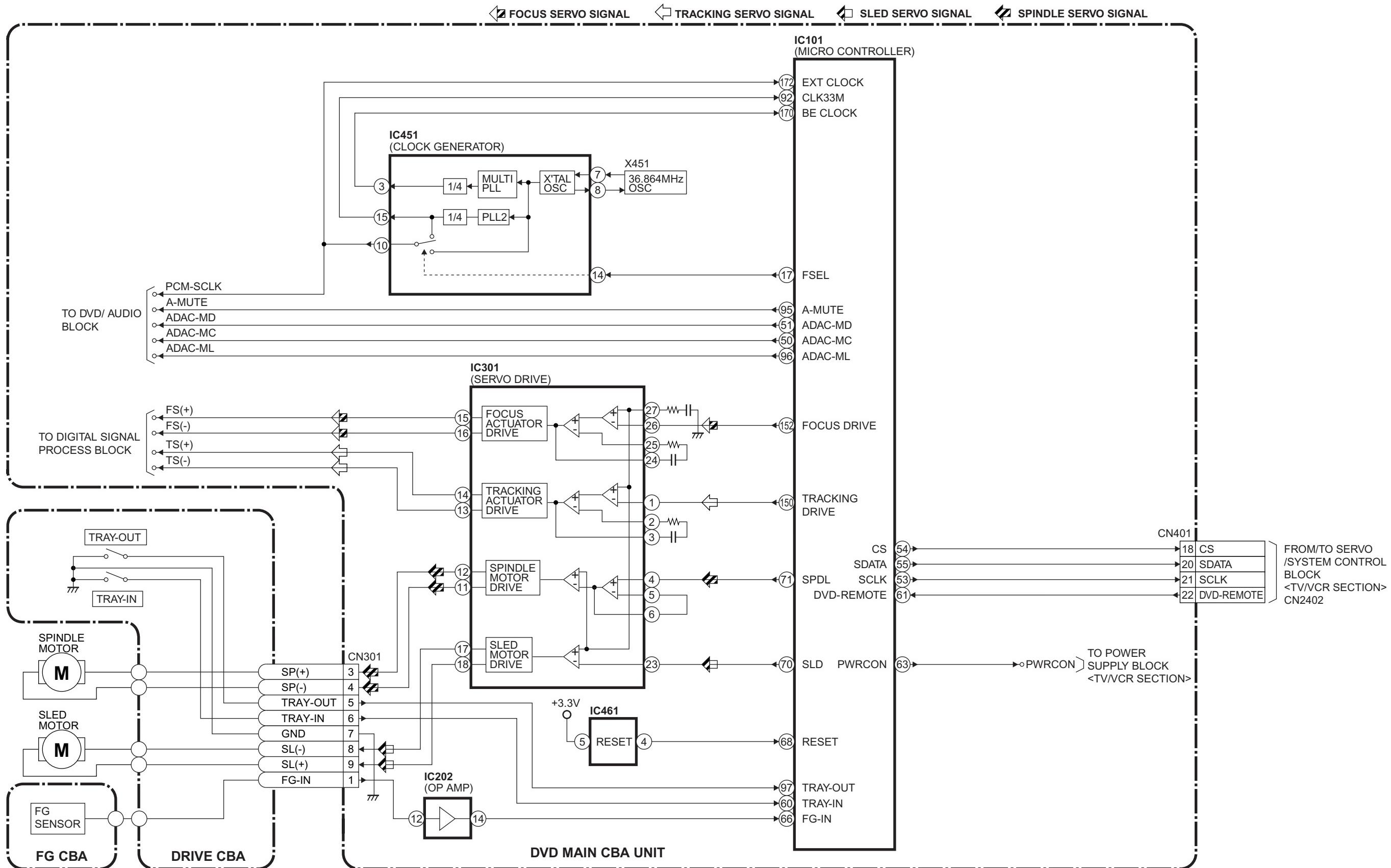
NOTE :

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

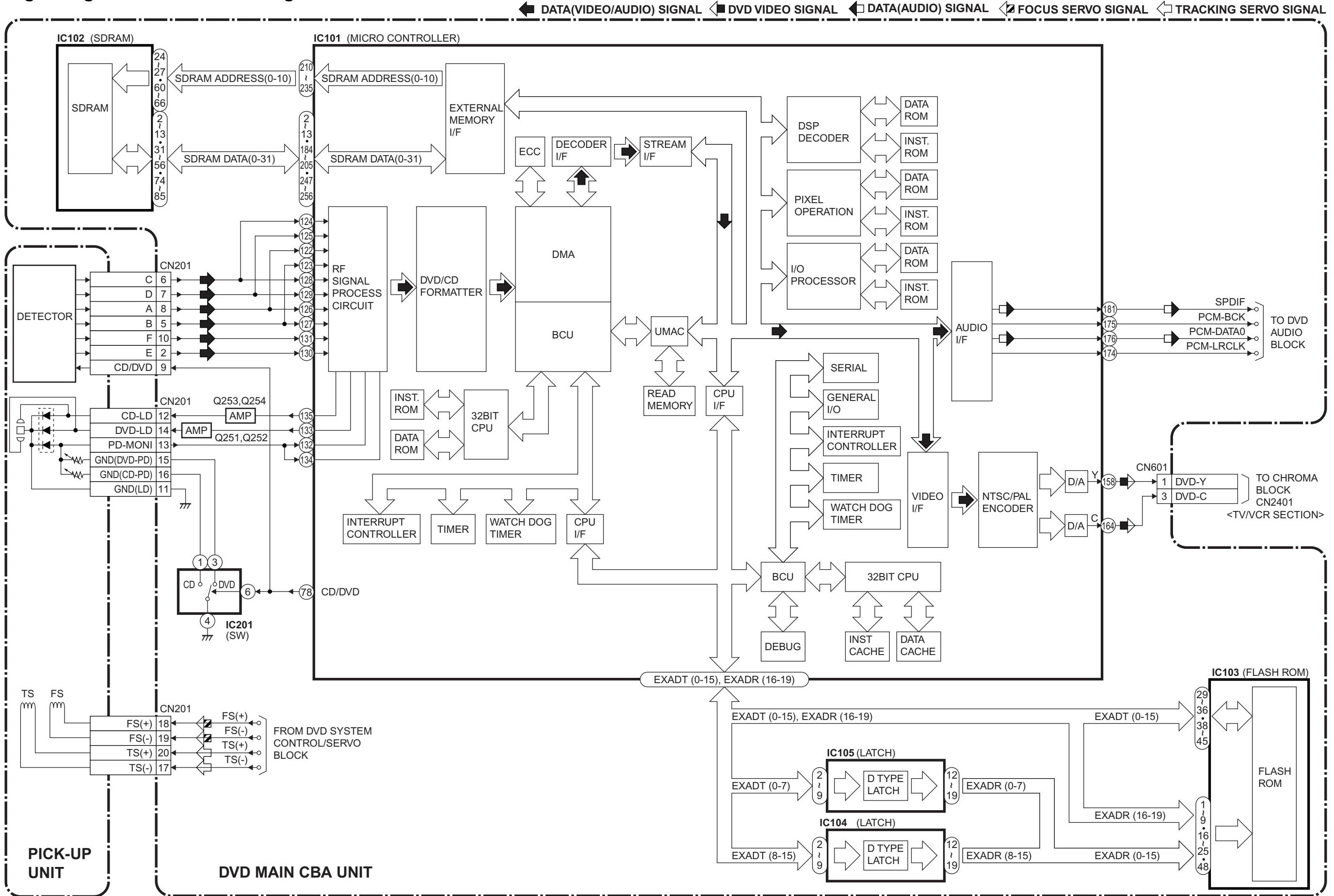


BLOCK DIAGRAMS < DVD Section >

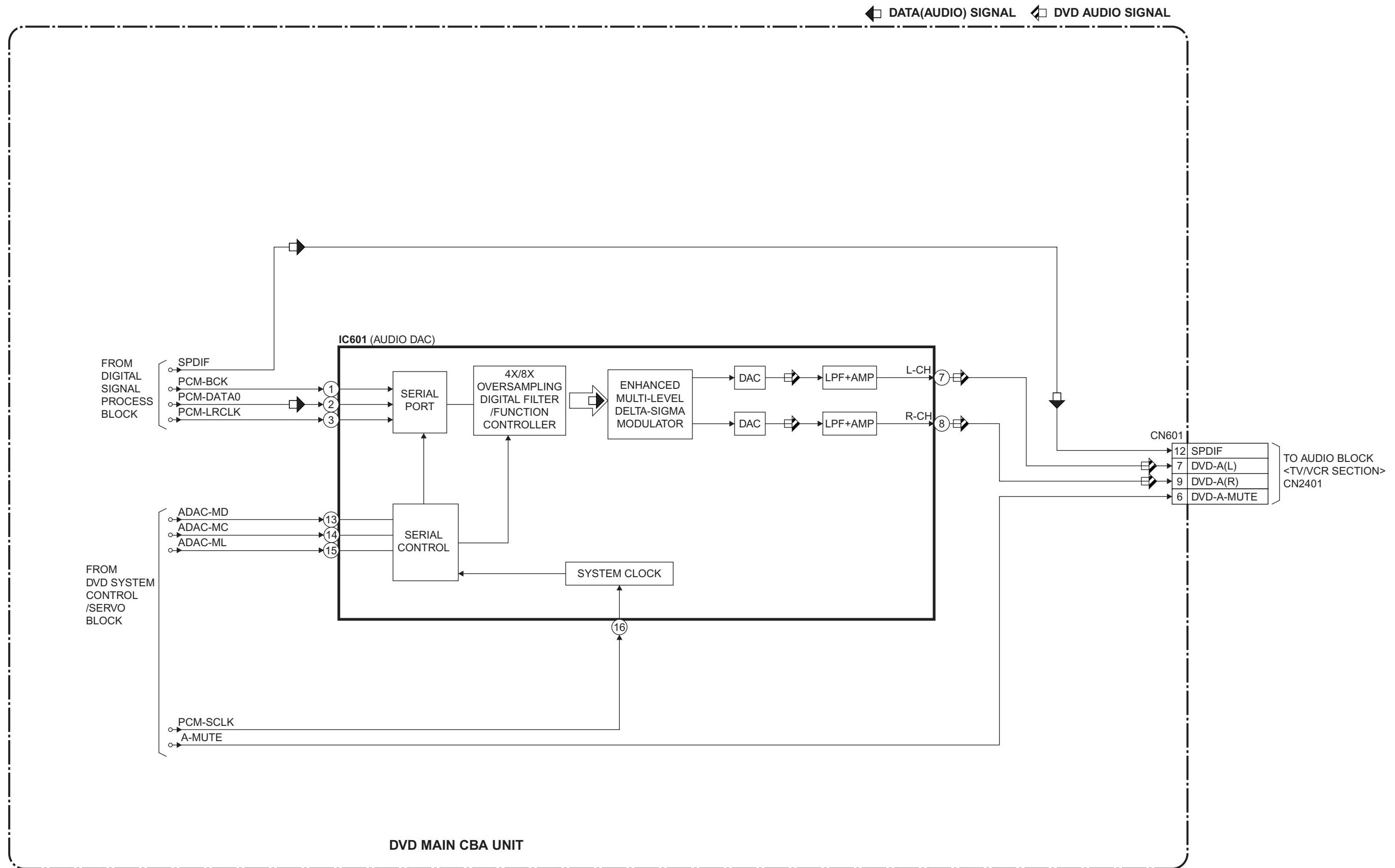
DVD System Control/Servo Block Diagram



Digital Signal Process Block Diagram



DVD Audio Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

Warning

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "▲" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

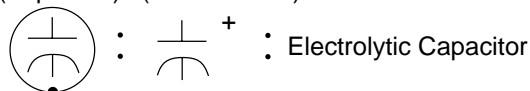
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 -80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	+30 -80%	20°C	-10~+70°C

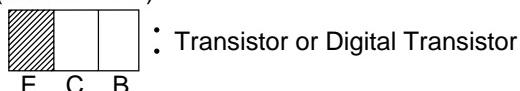
Capacitors and transistors are represented by the following symbols.

CBA Symbols

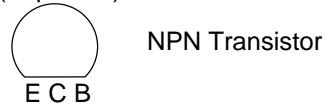
(Top View) (Bottom View)



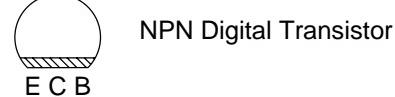
(Bottom View)



(Top View)

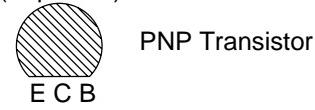


(Top View)

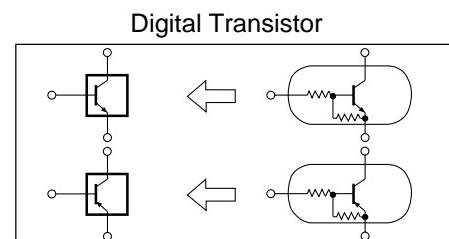


Schematic Diagram Symbols

(Top View)



(Top View)



Note:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}\mu F$).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

- 1. CAUTION:** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE A, V FUSE.

ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE A,_V.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

If Main Fuse (F2601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

- (1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
 - (2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

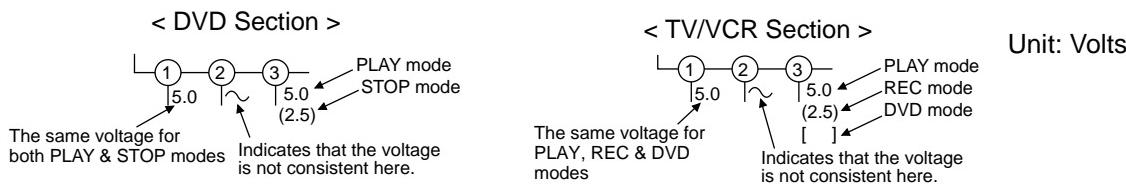
4. Wire Connectors

- (1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).
 - (2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

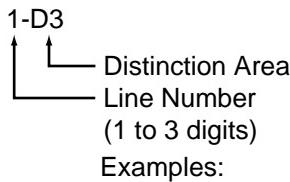
5. Note: Mark "•" is a leadless (chip) component

6. Mode: SP/REC

7. Voltage indications for PLAY and REC modes on the schematics are as shown below:

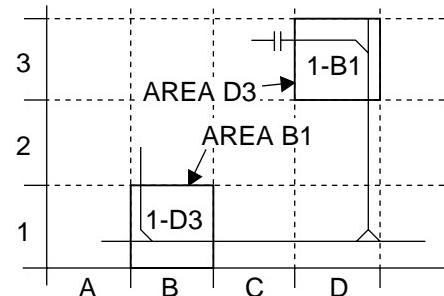


8. How to read converged lines



- Examples:

 1. "1-D3" means that line number "1" goes to area "D3".
 2. "1-B1" means that line number "1" goes to area "B1".



9. Test Point Information



(○) : Indicates a test point with a jumper wire across a hole in the PCB.



□ → : Used to indicate a test point with a component lead on foil side.

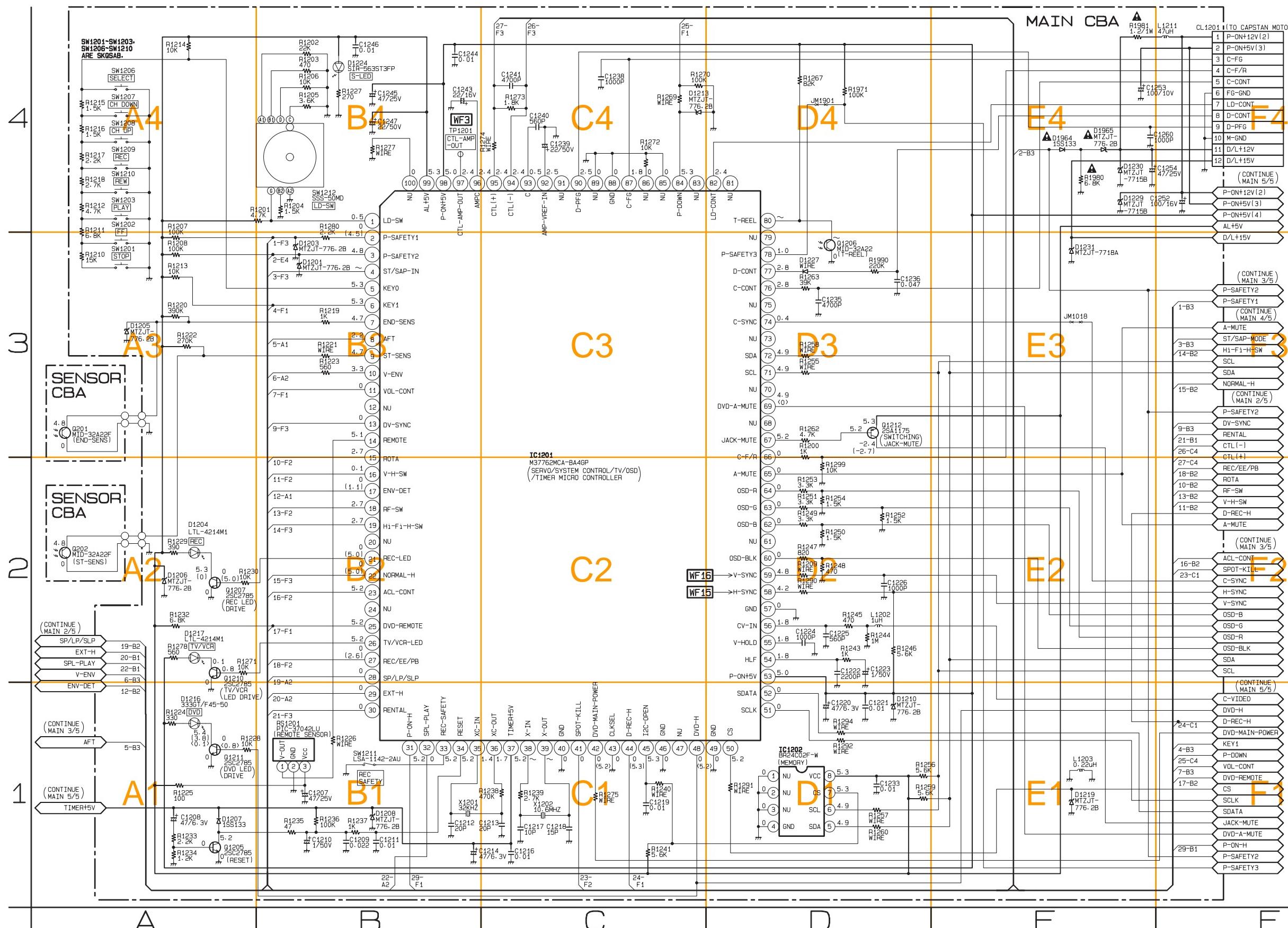


 : Used to indicate a test point with no test pin.



 : Used to indicate a test point with a test pin.

Main 1/5 Schematic Diagram < TV/VCR Section >

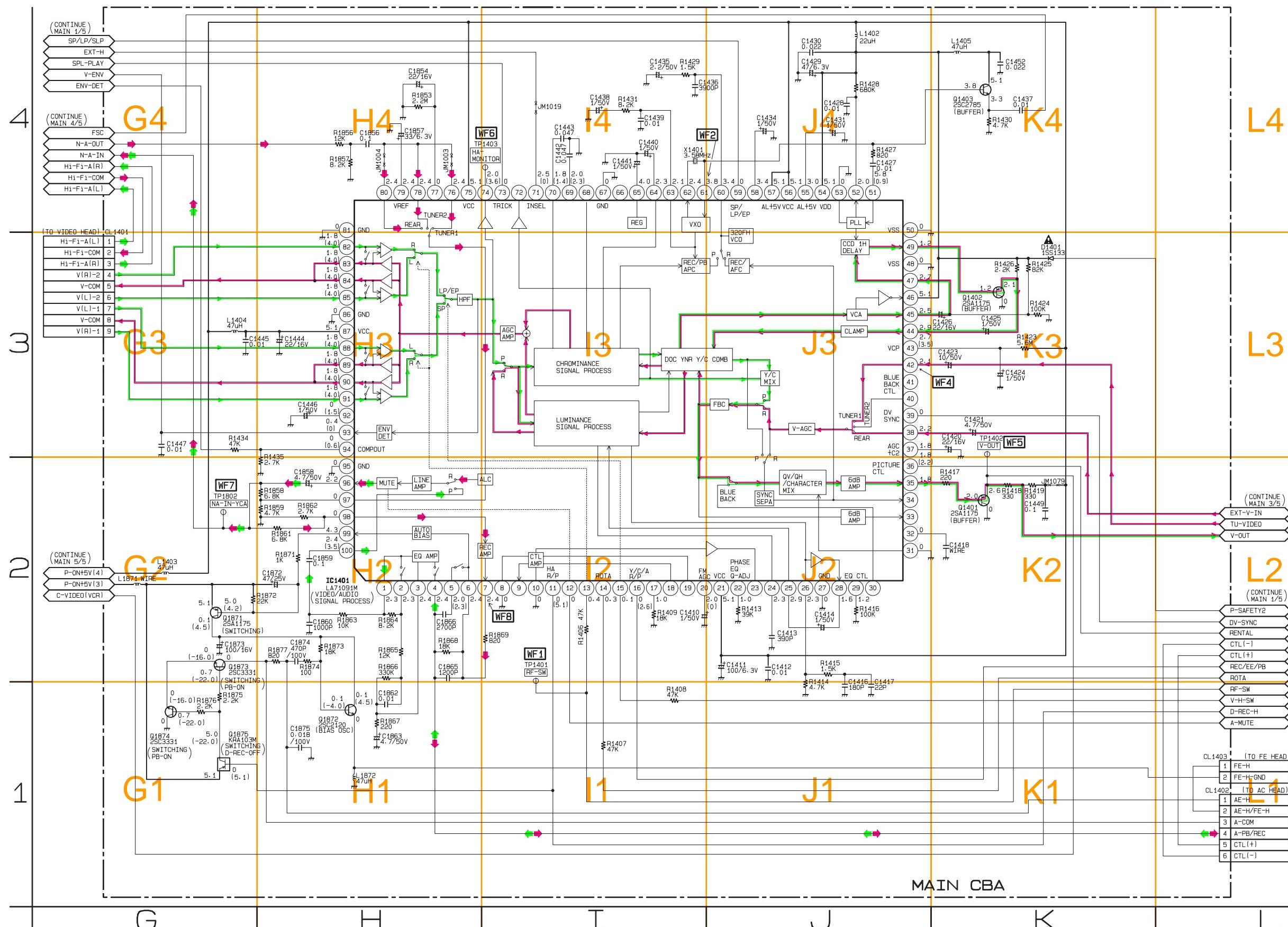


Ref No.	Position
ICS	
IC1201	C-3
IC1202	D-1
TRANSISTORS	
Q1205	A-1
Q1206	D-3
Q1207	A-2
Q1210	A-2
Q1211	A-1
Q1212	D-3
CONNECTOR	
CL1201	F-4
TEST POINT	
TP1201	B-4

Main 2/5 Schematic Diagram < TV/VCR Section >

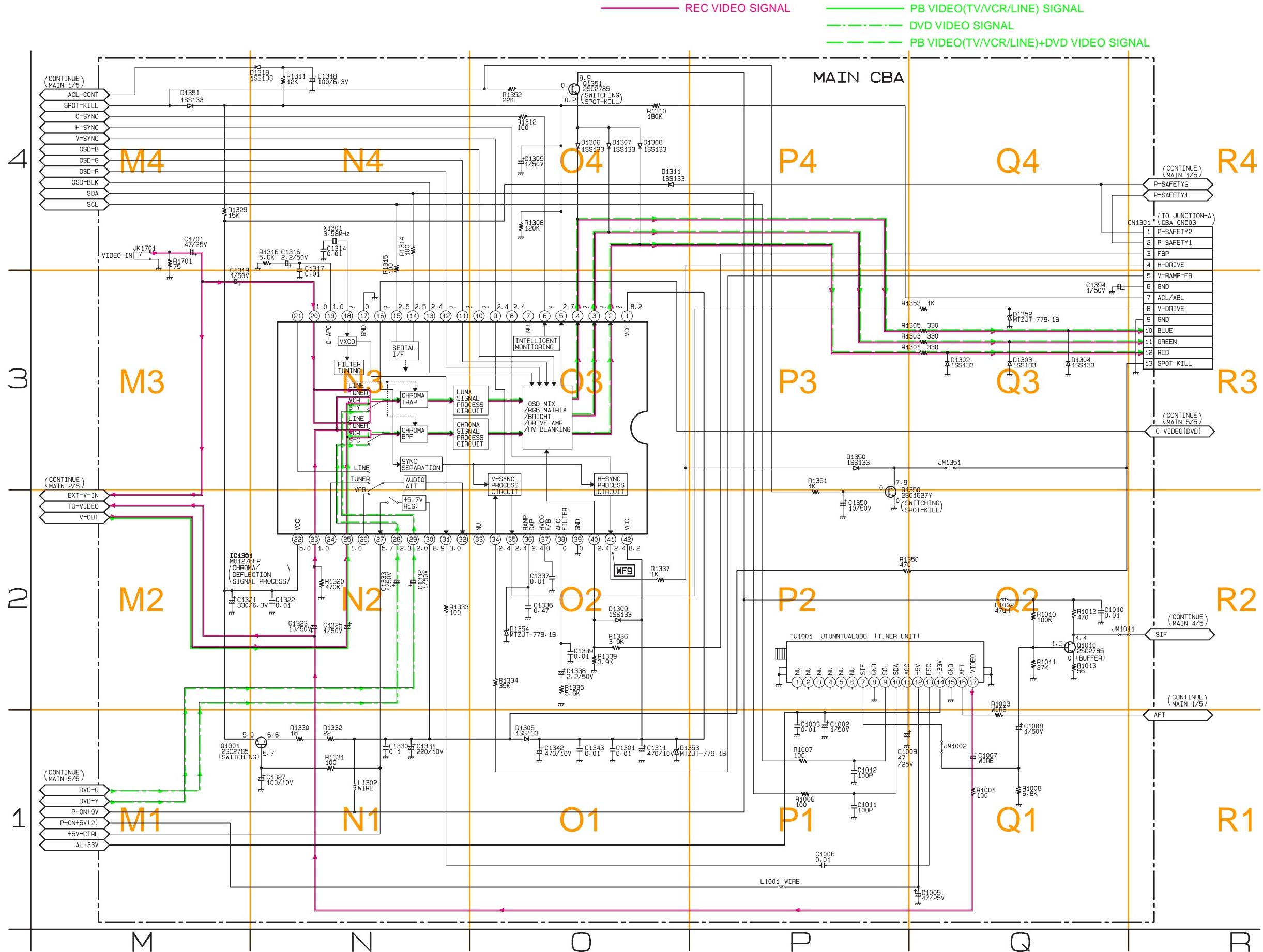
REC VIDEO SIGNAL
REC AUDIO SIGNAL

 PB VIDEO(TV/VCR/LINE) SIGNAL
 PB AUDIO (TV/VCR/LINE) SIGNAL

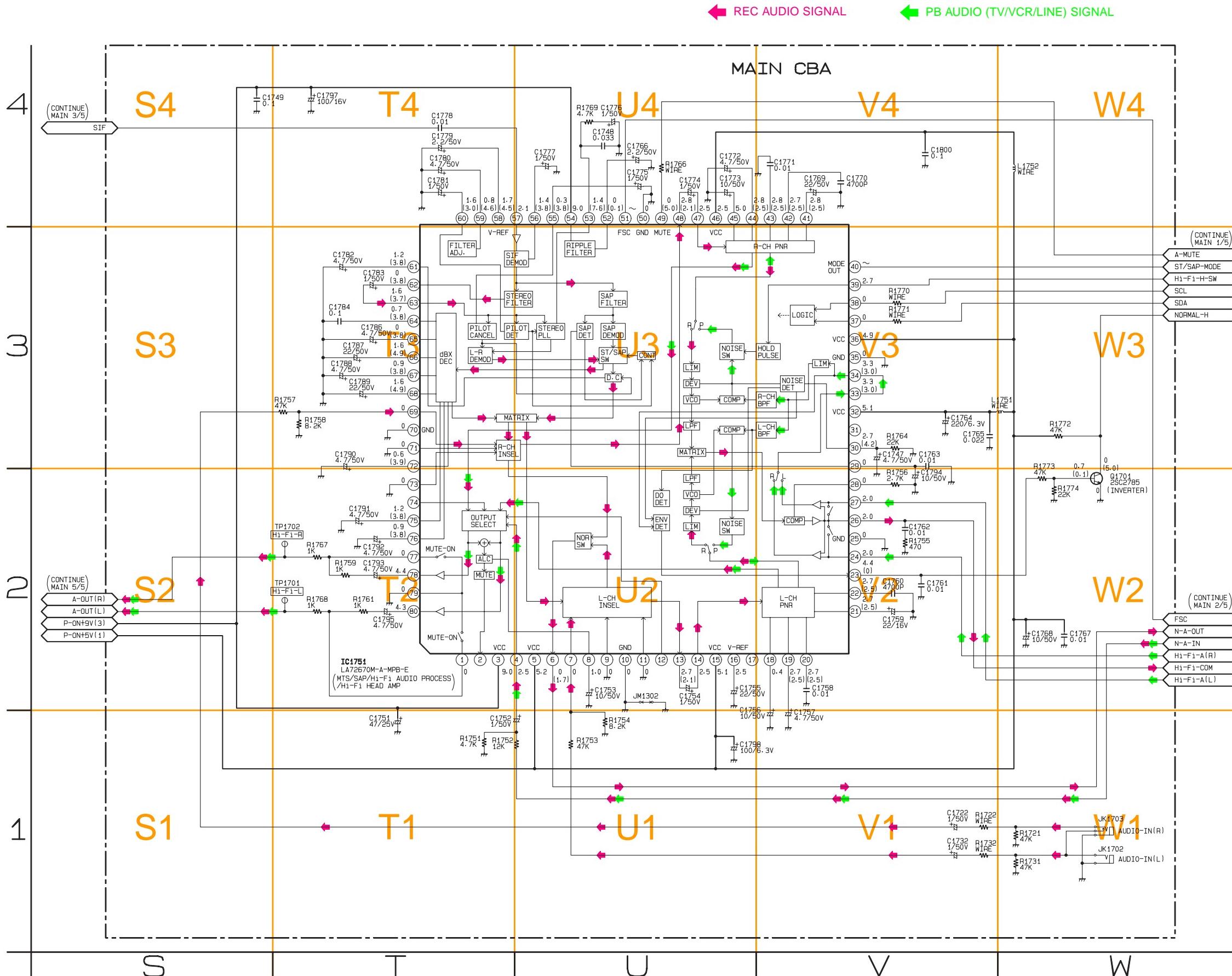


MAIN 2/5	
Ref No.	Position
IC	
IC1401	H-2
TRANSISTORS	
Q1401	K-2
Q1402	K-3
Q1403	K-4
Q1871	G-2
Q1872	H-1
Q1873	G-2
Q1874	G-1
Q1875	G-1
CONNECTORS	
CL1401	G-3
CL1402	L-1
CL1403	L-1
TEST POINTS	
TP1401	I-2
TP1402	K-3
TP1403	I-4
TP1802	G-2

Main 3/5 Schematic Diagram < TV/VCR Section >

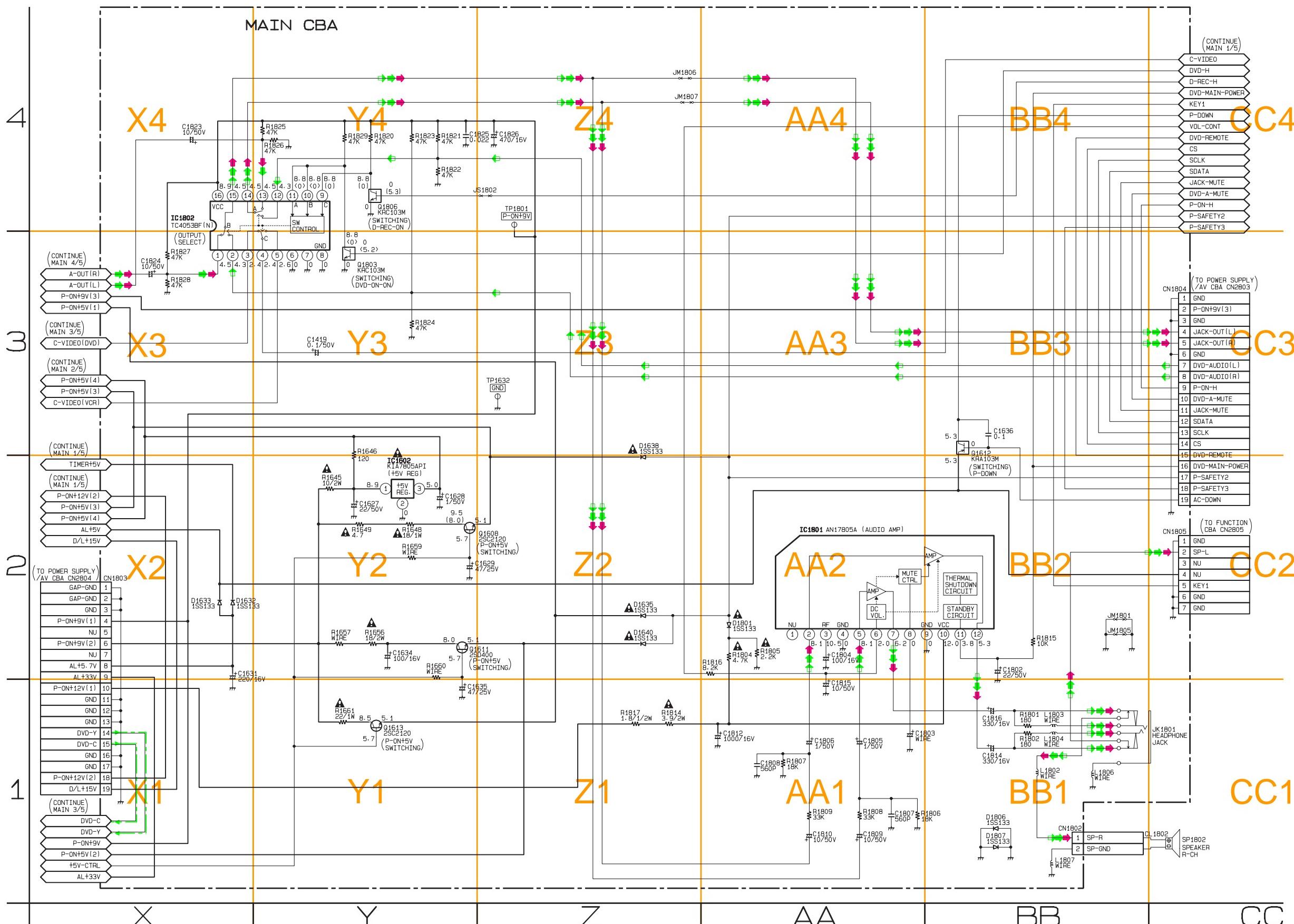


Main 4/5 Schematic Diagram < TV/VCR Section >



Main 5/5 Schematic Diagram < TV/VCR Section >

DVD VIDEO SIGNAL
 REC AUDIO SIGNAL
 PB AUDIO (TV/VCR/LINE) SIGNAL
 DVD AUDIO SIGNAL



Ref No.	Position
ICS	
IC1602	Y-2
IC1801	AA-2
IC1802	X-4
TRANSISTORS	
Q1608	Z-2
Q1611	Y-2
Q1612	BB-3
Q1613	Y-1
Q1803	Y-3
Q1806	Y-4
CONNECTORS	
CN1802	BB-1
CN1803	X-2
CN1804	CC-3
CN1805	CC-2
TEST POINTS	
TP1632	Z-3
TP1801	Z-4

Power Supply/AV 1/2 Schematic Diagram < TV/VCR Section >

CAUTION !

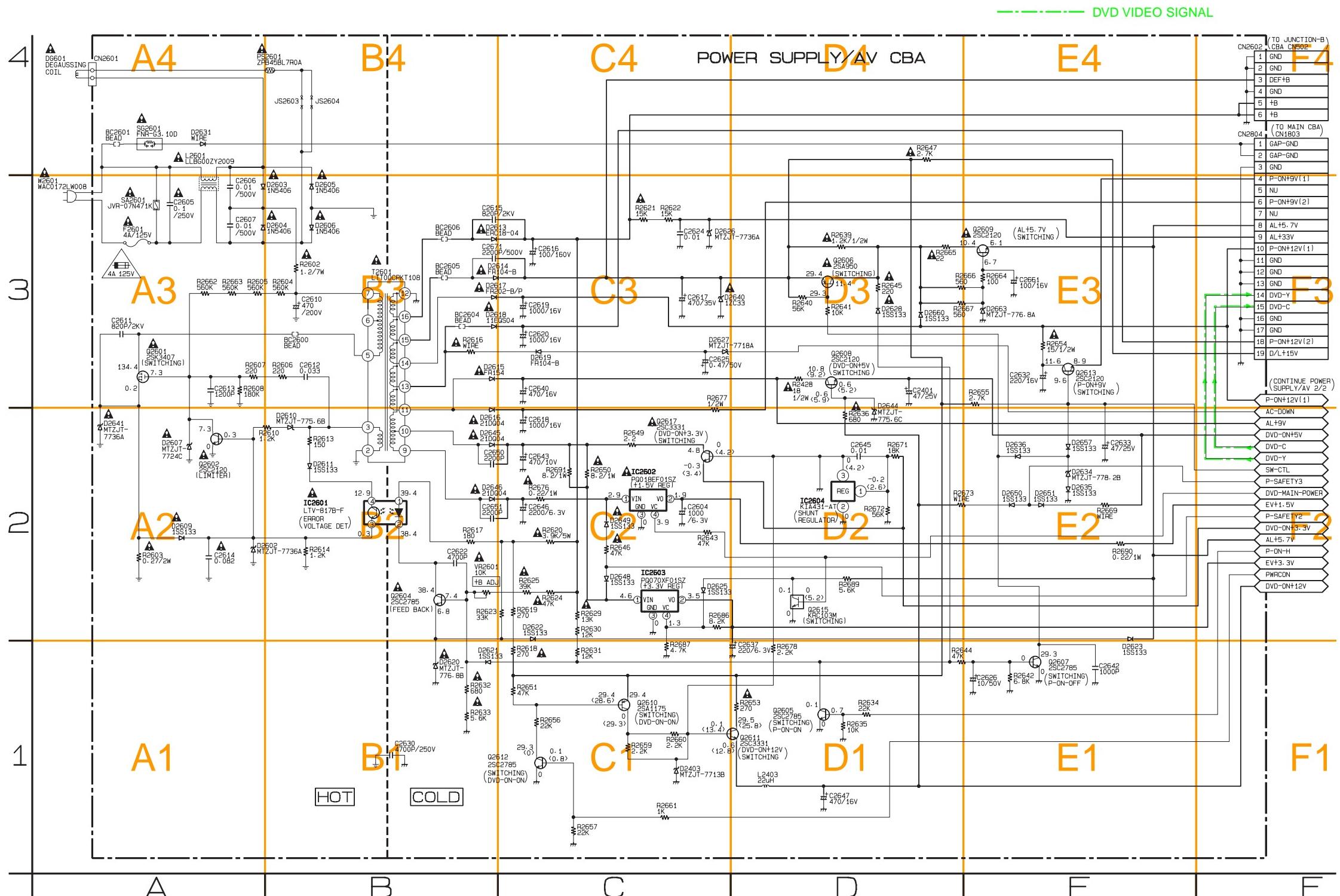
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :

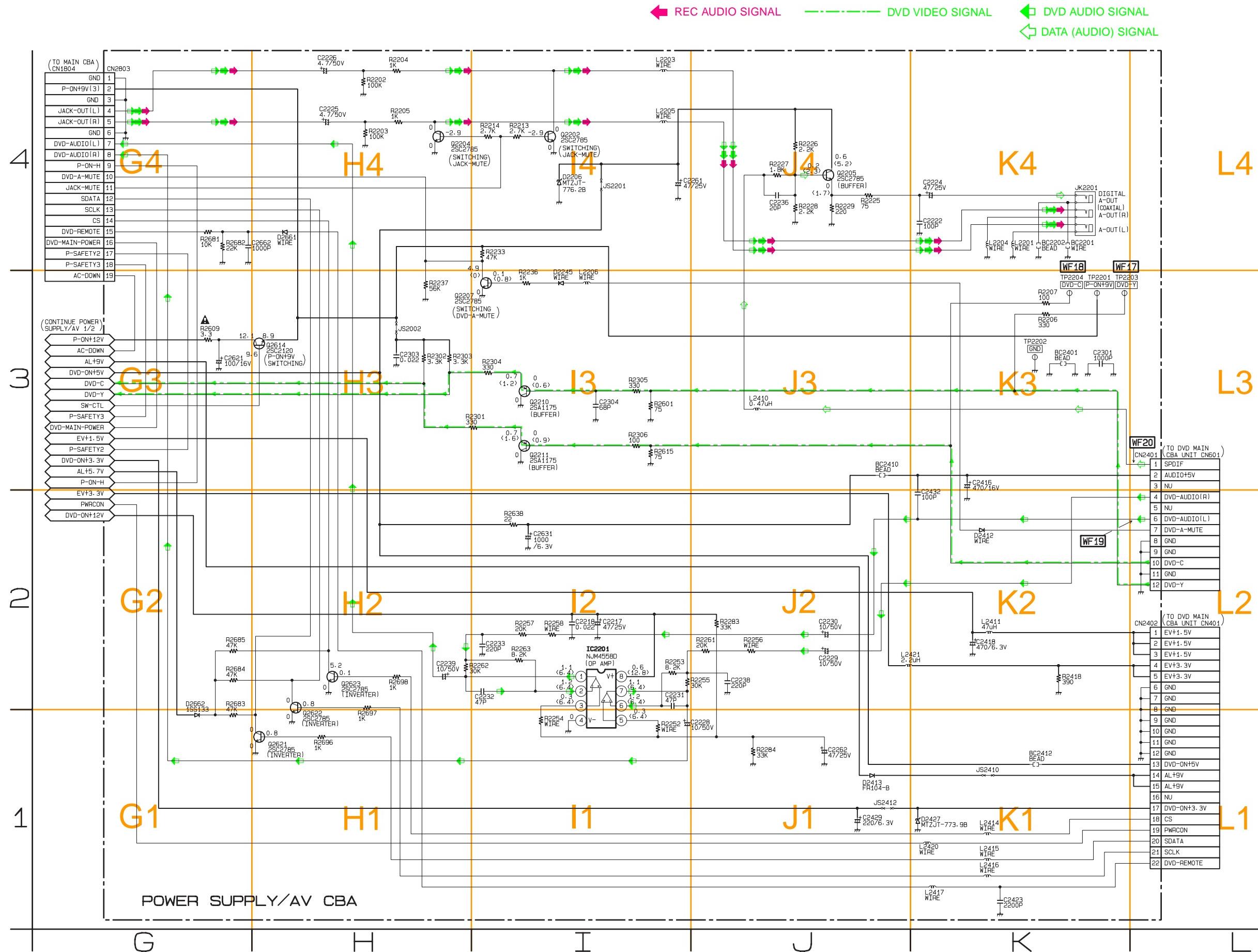
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



VOLTAGE CHART (Power off mode)				
Ref. No.	1	2	3	4
IC2601	13.2	12.1	0.3	2.3
IC2602	2	0	0	0
IC2603	1.8	0.3	0	1.9
IC2604	0	0	0.2	---
Ref. No.	S	D	G	
Q2601	0	140.7	1.4	
Ref. No.	E	C	B	
Q2602	0	1.4	0.3	
Q2603	0	4.9	0	
Q2604	6.8	12.1	7.4	
Q2605	0	8.0	0	
Q2606	10.3	10.2	9.6	
Q2607	0	0.1	0.7	
Q2608	0.1	9.8	0.2	
Q2609	5.9	9.3	6.6	
Q2610	10.3	0.2	10.2	
Q2611	0.2	10.3	0.3	
Q2612	0	10.2	0	
Q2613	0.9	4.6	1.4	
Q2614	0.9	4.6	1.4	
Q2615	0	2.5	0	
Q2617	0.2	1.8	0.5	

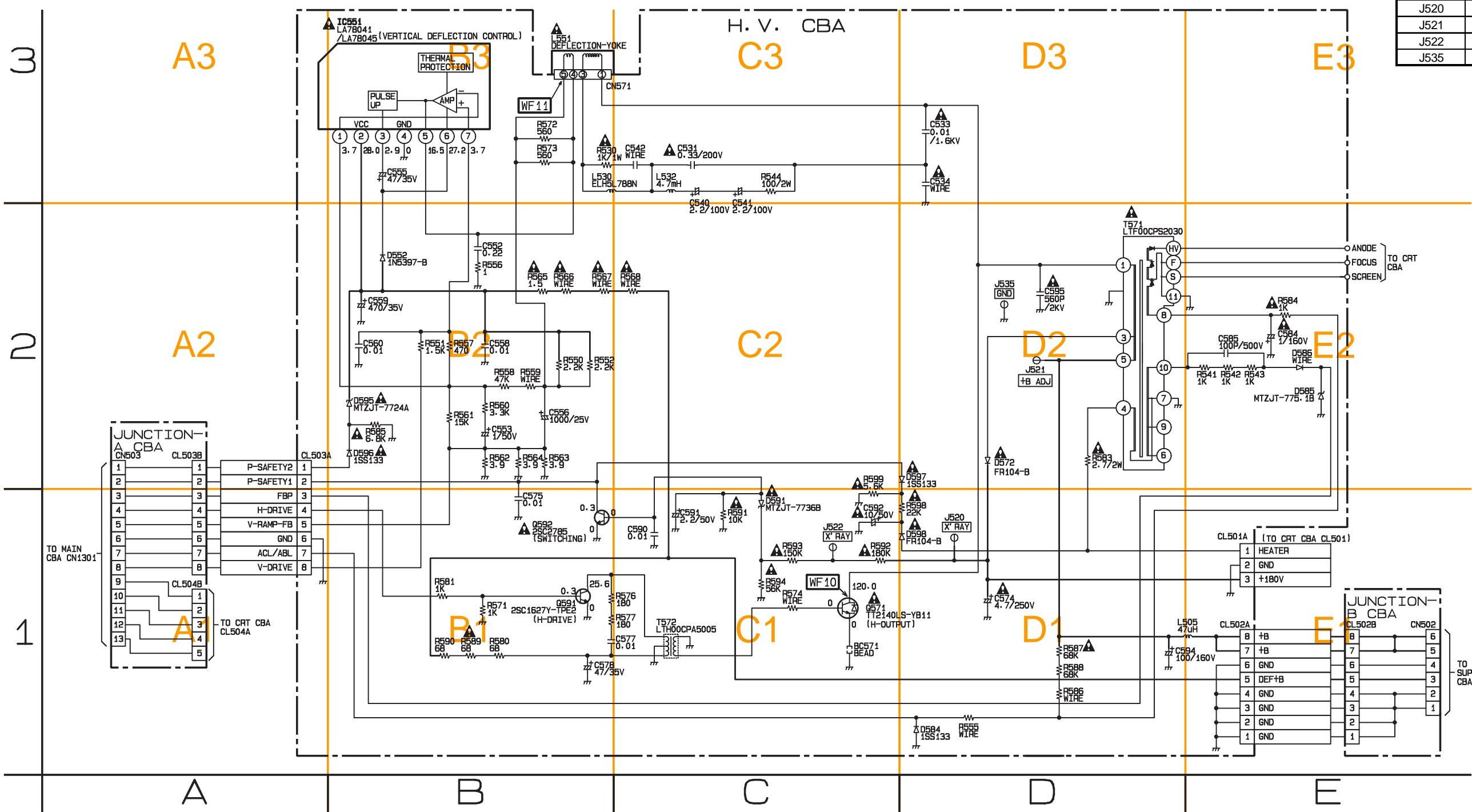
POWER SUPPLY/AV 1/2	
Ref No.	Position
ICS	
IC2601	B-2
IC2602	C-2
IC2603	C-2
IC2604	D-2
TRANSISTORS	
Q2601	A-3
Q2602	A-2
Q2604	B-2
Q2605	D-1
Q2606	D-3
Q2607	E-1
Q2608	D-3
Q2609	E-3
Q2610	C-1
Q2611	D-1
Q2612	C-1
Q2613	E-3
Q2615	D-2
Q2617	C-2
CONNECTORS	
CN2601	A-4
CN2602	F-4
CN2804	F-4
VARIABLE RESISTOR	
VR2601	B-2

Power Supply/AV 2/2 Schematic Diagram < TV/VCR Section >

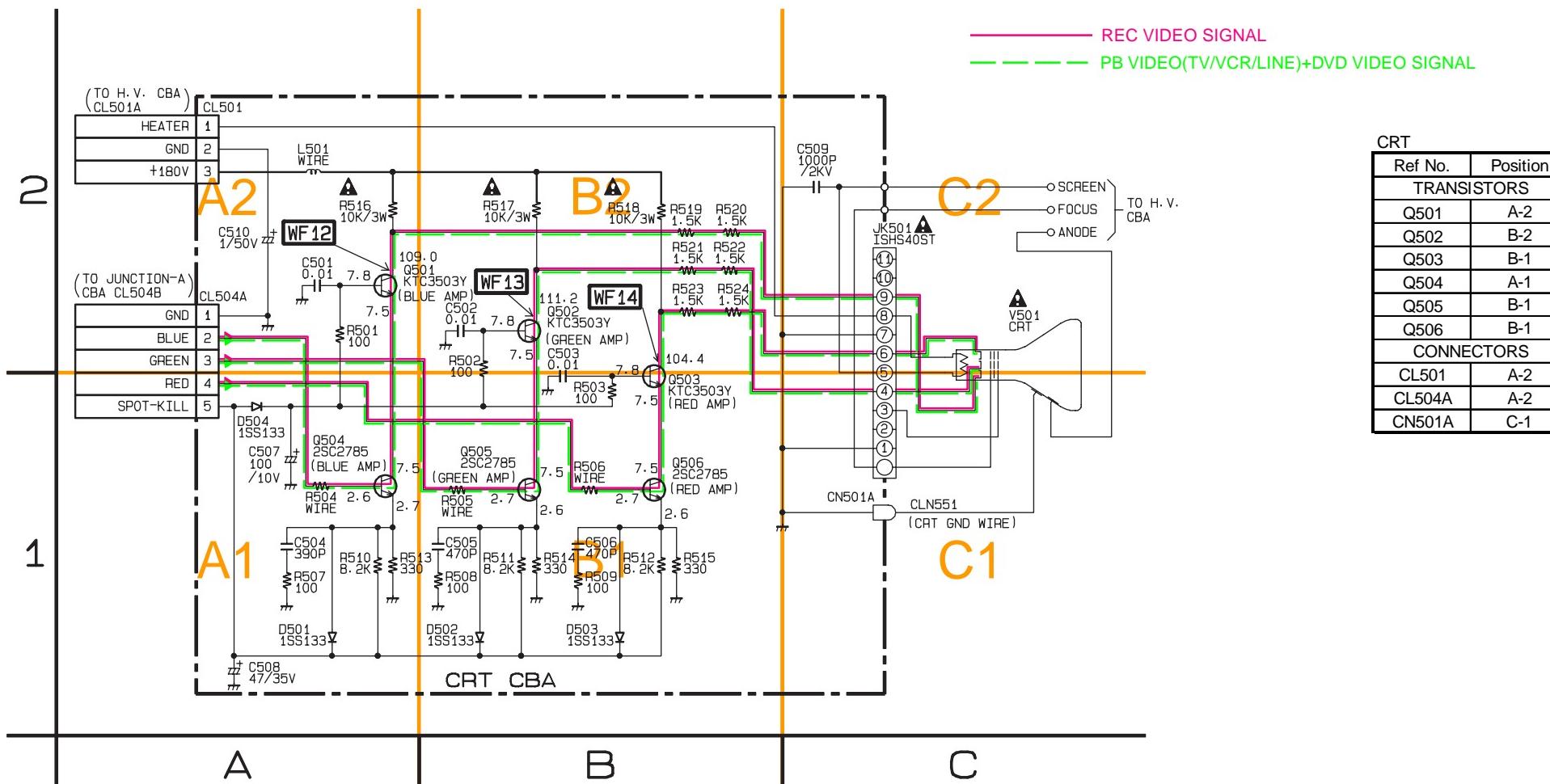


H.V. Schematic Diagram < TV/VCR Section >

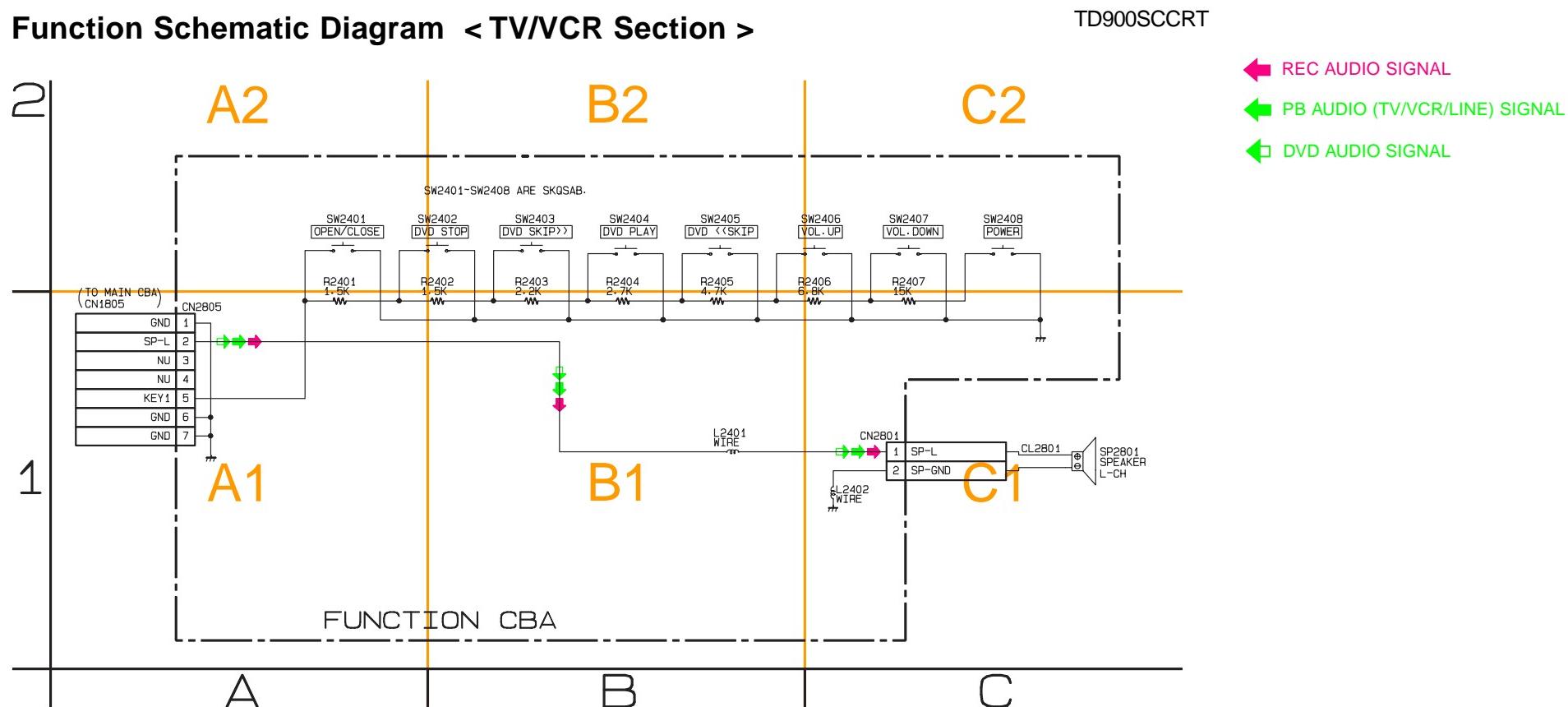
H.V.	
Ref No.	Position
	IC
IC551	B-3
TRANSISTORS	
Q571	C-1
Q591	B-1
Q592	B-1
CONNECTORS	
CL501A	E-1
CL502A	E-1
CL503A	A-2
CN571	C-3
TEST POINTS	
J520	D-1
J521	D-2
J522	C-1
J535	D-2



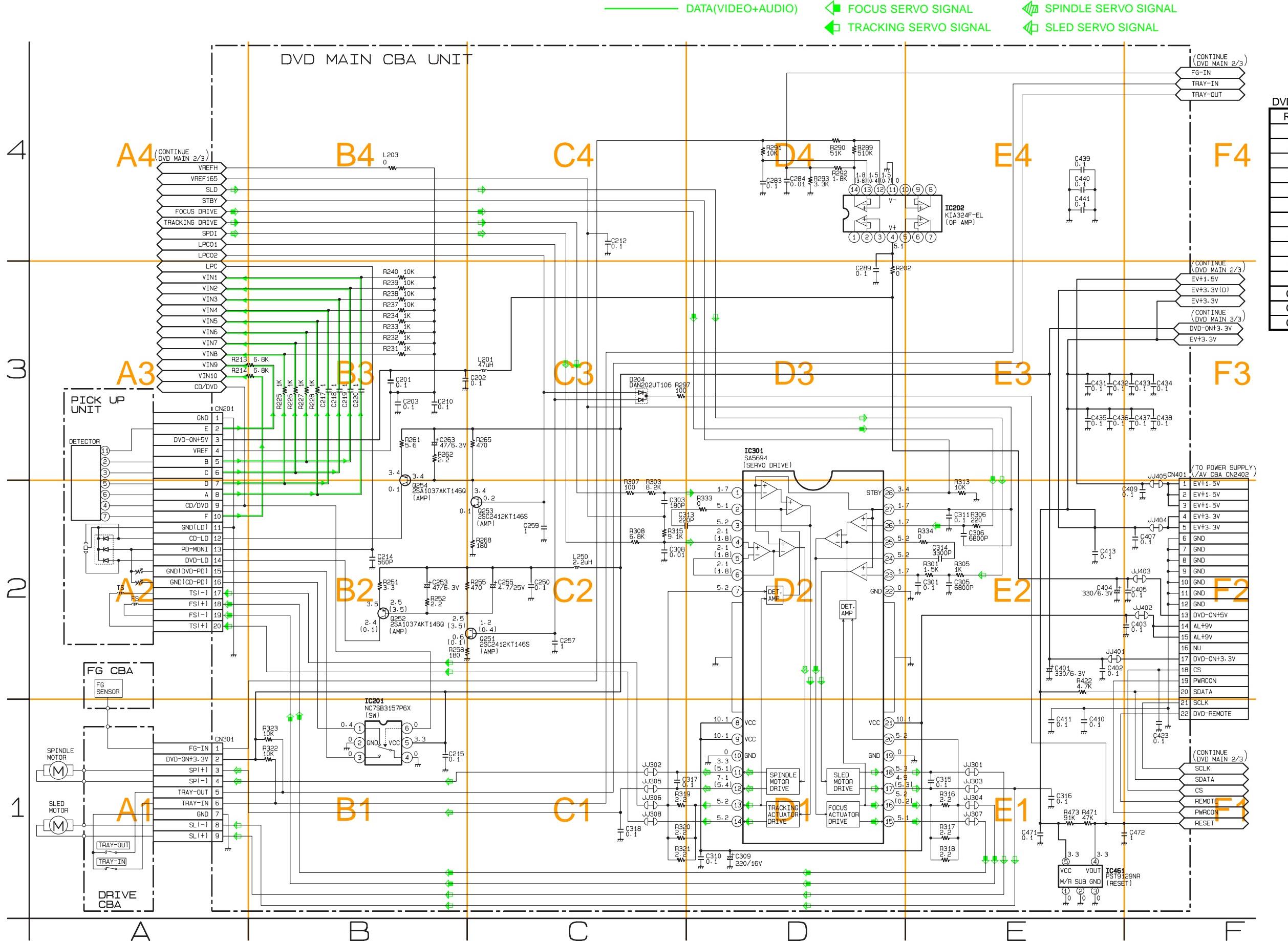
CRT Schematic Diagram < TV/VCR Section >



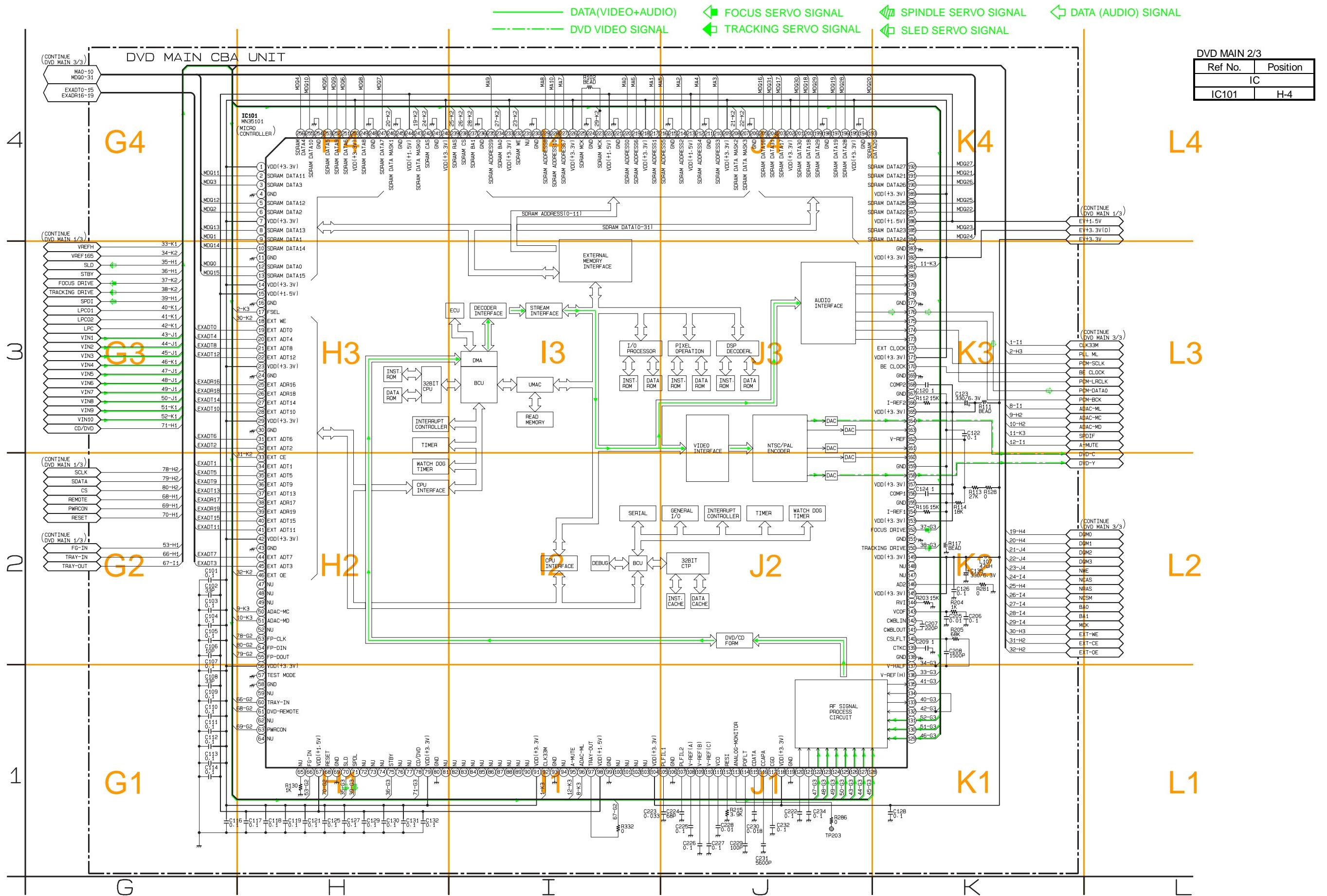
Function Schematic Diagram < TV/VCR Section >



DVD Main 1/3 Schematic Diagram < DVD Section >



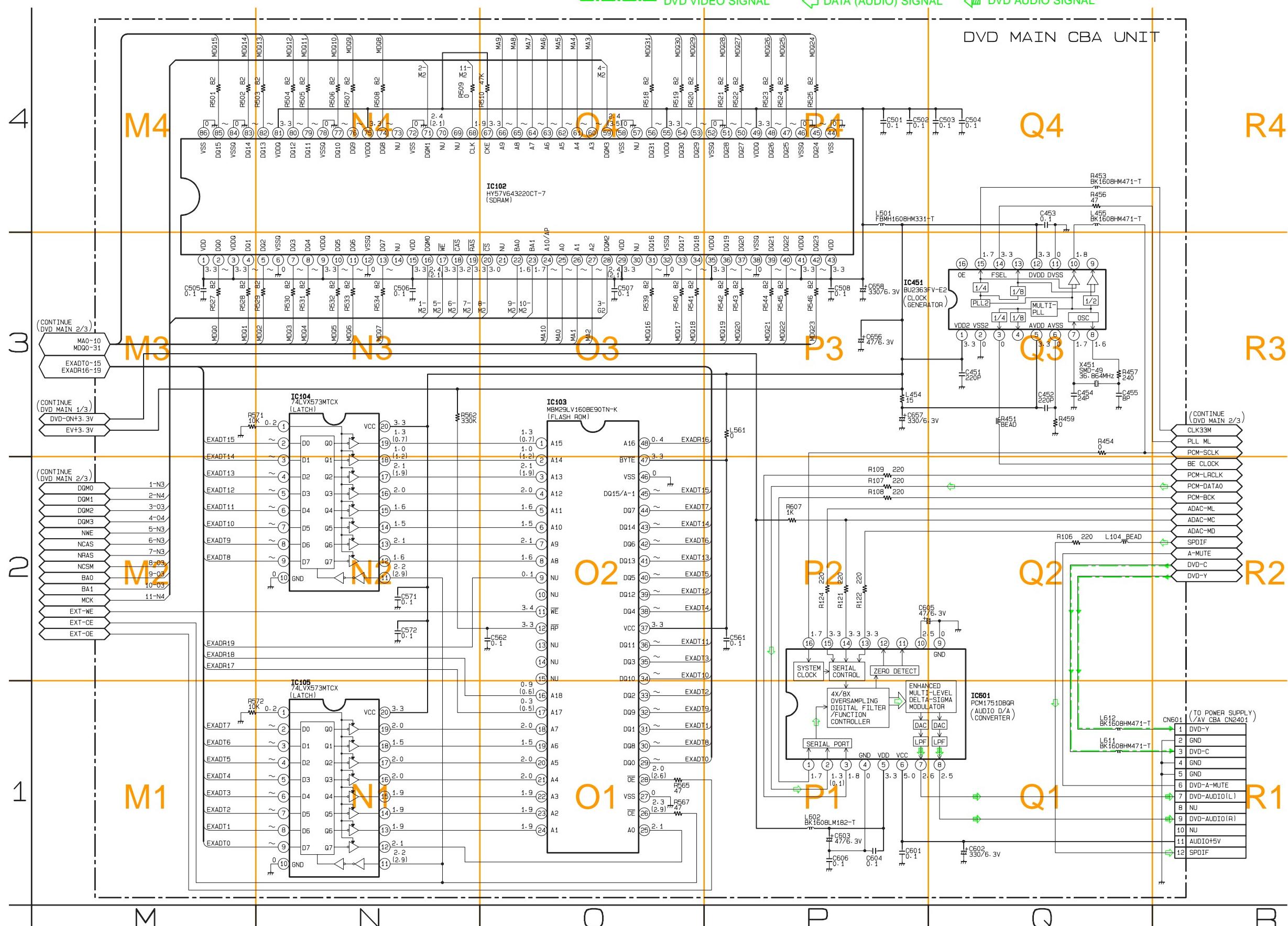
DVD Main 2/3 Schematic Diagram < DVD Section >



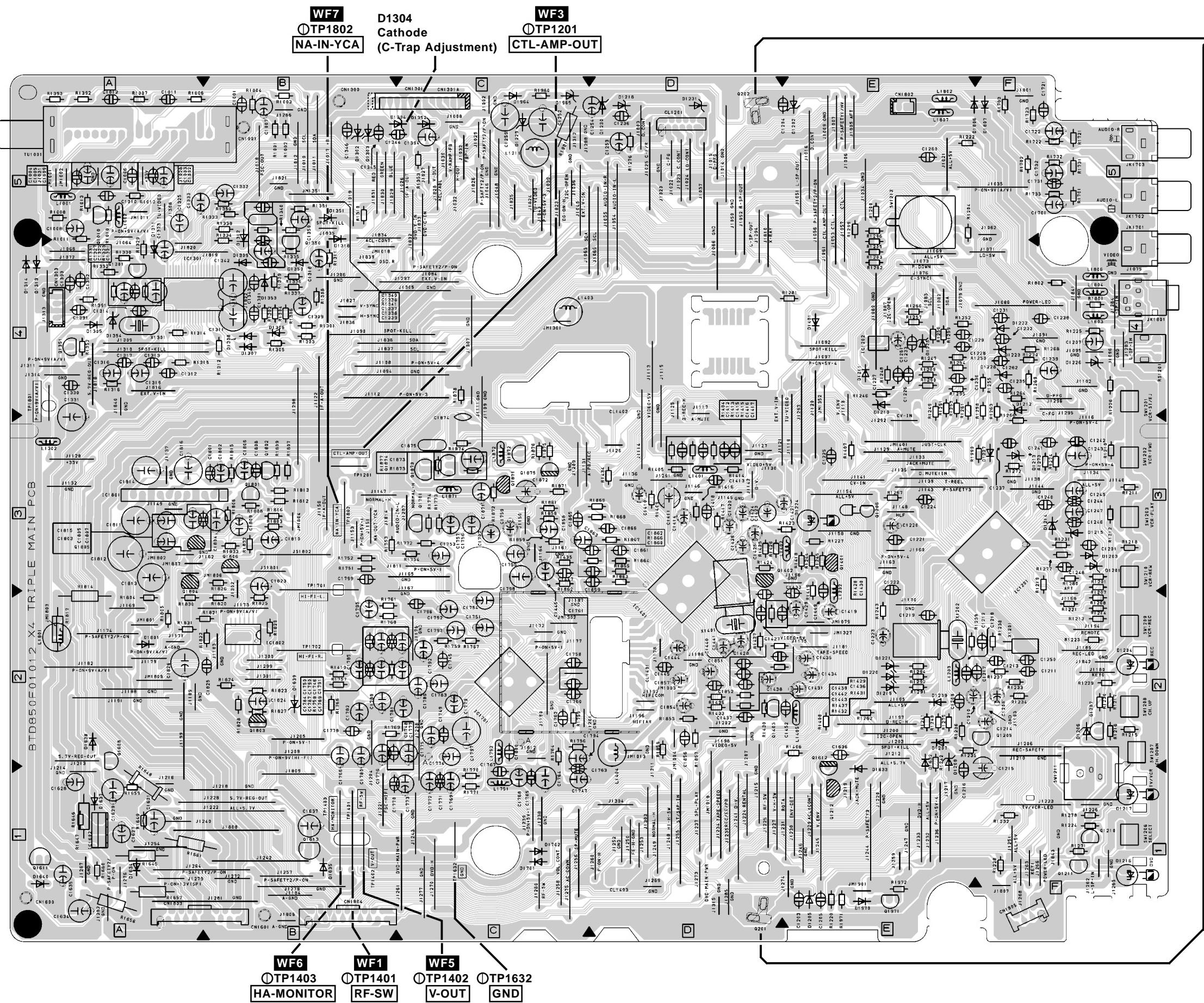
IC101 VOLTAGE CHART

PIN.NO	PLAY	STOP																					
1	3.3	3.3	33	2.2	2.9	65	0.1	0.1	97	3.4	3.4	129	2.0	2.0	161	----	----	193	~	~	225	1.9	1.9
2	~	~	34	~	~	66	1.2	2.5	98	1.6	1.6	130	2.2	2.2	162	1.4	1.4	194	0	0	226	3.3	3.3
3	~	~	35	~	~	67	1.6	1.6	99	0	0	131	2.3	2.3	163	----	----	195	3.3	3.3	227	~	~
4	0	0	36	~	~	68	3.4	3.4	100	----	----	132	0.4	0.1	164	0.9	0.9	196	~	~	228	~	~
5	~	~	37	~	~	69	0	0	101	----	----	133	1.2	0.4	165	3.3	3.3	197	~	~	229	~	~
6	~	~	38	0.3	0.5	70	1.7	1.7	102	----	----	134	0.4	0.1	166	1.5	1.5	198	0	0	230	0	0
7	3.3	3.3	39	0.1	0.1	71	2.4	1.7	103	----	----	135	0.2	0.2	167	0	0	199	~	~	231	----	----
8	~	~	40	~	~	72	----	----	104	3.3	3.3	136	2.3	2.3	168	2.1	2.1	200	~	~	232	3.3	3.3
9	~	~	41	~	~	73	----	----	105	0.9	0.9	137	1.7	1.7	169	0	0	201	~	~	233	3.3	3.3
10	~	~	42	3.3	3.3	74	----	----	106	0	0	138	0	0	170	0.8	0.8	202	3.3	3.3	234	1.6	1.6
11	0	0	43	0	0	75	3.4	3.4	107	0.8	0.8	139	1.7	1.7	171	3.3	3.3	203	~	~	235	~	~
12	~	~	44	~	~	76	----	----	108	1.6	1.6	140	1.7	1.7	172	1.6	1.6	204	~	~	236	0	0
13	~	~	45	~	~	77	----	----	109	2.1	2.1	141	1.7	1.7	173	----	----	205	~	~	237	1.7	1.7
14	3.3	3.3	46	2.0	2.6	78	0.1	0.1	110	2.6	2.6	142	1.7	1.7	174	1.8	1.8	206	0	0	238	3.0	3.0
15	1.5	1.5	47	----	----	79	3.3	3.3	111	2.0	2.0	143	0.5	0.5	175	1.7	1.7	207	2.4	3.5	239	3.3	3.3
16	0	0	48	----	----	80	0	0	112	0.7	0.9	144	1.6	1.6	176	1.4	0.1	208	2.4	2.1	240	3.3	3.3
17	3.4	3.4	49	----	----	81	----	----	113	2.1	2.1	145	3.3	3.3	177	0	0	209	3.3	3.3	241	0	0
18	3.4	3.4	50	3.4	3.4	82	----	----	114	1.8	1.8	146	1.8	1.8	178	----	----	210	~	~	242	3.2	3.2
19	~	~	51	3.4	3.4	83	----	----	115	1.4	1.4	147	----	----	179	----	----	211	0	0	243	2.4	2.1
20	~	~	52	----	----	84	----	----	116	0.3	0.3	148	----	----	180	----	----	212	~	~	244	1.5	1.5
21	~	~	53	3.4	3.4	85	----	----	117	1.6	1.6	149	3.3	3.3	181	1.7	1.7	213	1.5	1.5	245	0	0
22	~	~	54	3.4	3.4	86	----	----	118	3.3	3.3	150	1.7	1.7	182	3.3	3.3	214	~	~	246	2.4	2.1
23	3.3	3.3	55	3.3	3.3	87	----	----	119	0	0	151	0	0	183	0	0	215	0	0	247	~	~
24	0	0	56	3.3	3.3	88	----	----	120	1.9	1.9	152	1.7	1.7	184	~	~	216	~	~	248	0	0
25	0.4	0.4	57	0	0	89	----	----	121	1.9	1.9	153	3.3	3.3	185	~	~	217	~	~	249	~	~
26	0.9	0.6	58	0	0	90	----	----	122	2.4	2.4	154	1.4	1.4	186	1.5	1.5	218	3.3	3.3	250	3.3	3.3
27	~	~	59	----	----	91	3.3	3.3	123	2.4	2.4	155	0	0	187	~	~	219	~	~	251	~	~
28	~	~	60	3.4	3.4	92	1.7	1.5	124	2.4	2.4	156	2.2	2.2	188	~	~	220	~	~	252	~	~
29	3.3	3.3	61	3.1	3.1	93	0	0	125	2.4	2.4	157	3.3	3.3	189	3.3	3.3	221	0	0	253	~	~
30	0	0	62	----	----	94	----	----	126	2.0	2.0	158	0.7	0.7	190	~	~	222	1.5	1.5	254	0	0
31	~	~	63	3.4	3.4	95	3.4	0.1	127	2.0	2.0	159	0	0	191	~	~	223	1.9	1.9	255	~	~
32	~	~	64	----	----	96	3.4	3.4	128	2.0	2.0	160	----	----	192	~	~	224	0	0	256	~	~

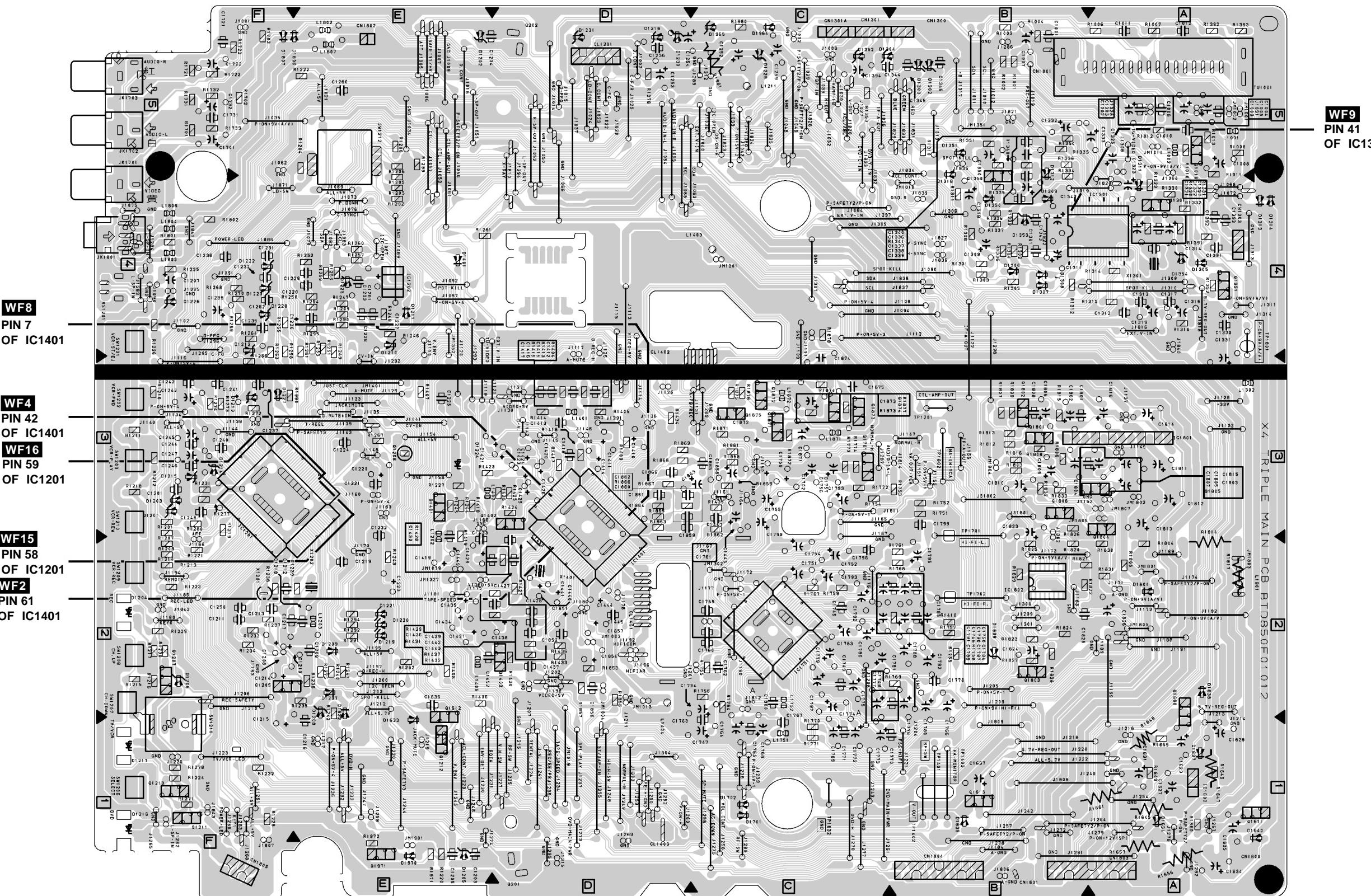
DVD Main 3/3 Schematic Diagram < DVD Section >



Main CBA Top View < TV/VCR Section >



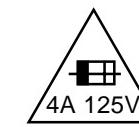
Main CBA Bottom View < TV/VCR Section >



Power Supply / AV CBA Top View < TV/VCR Section >

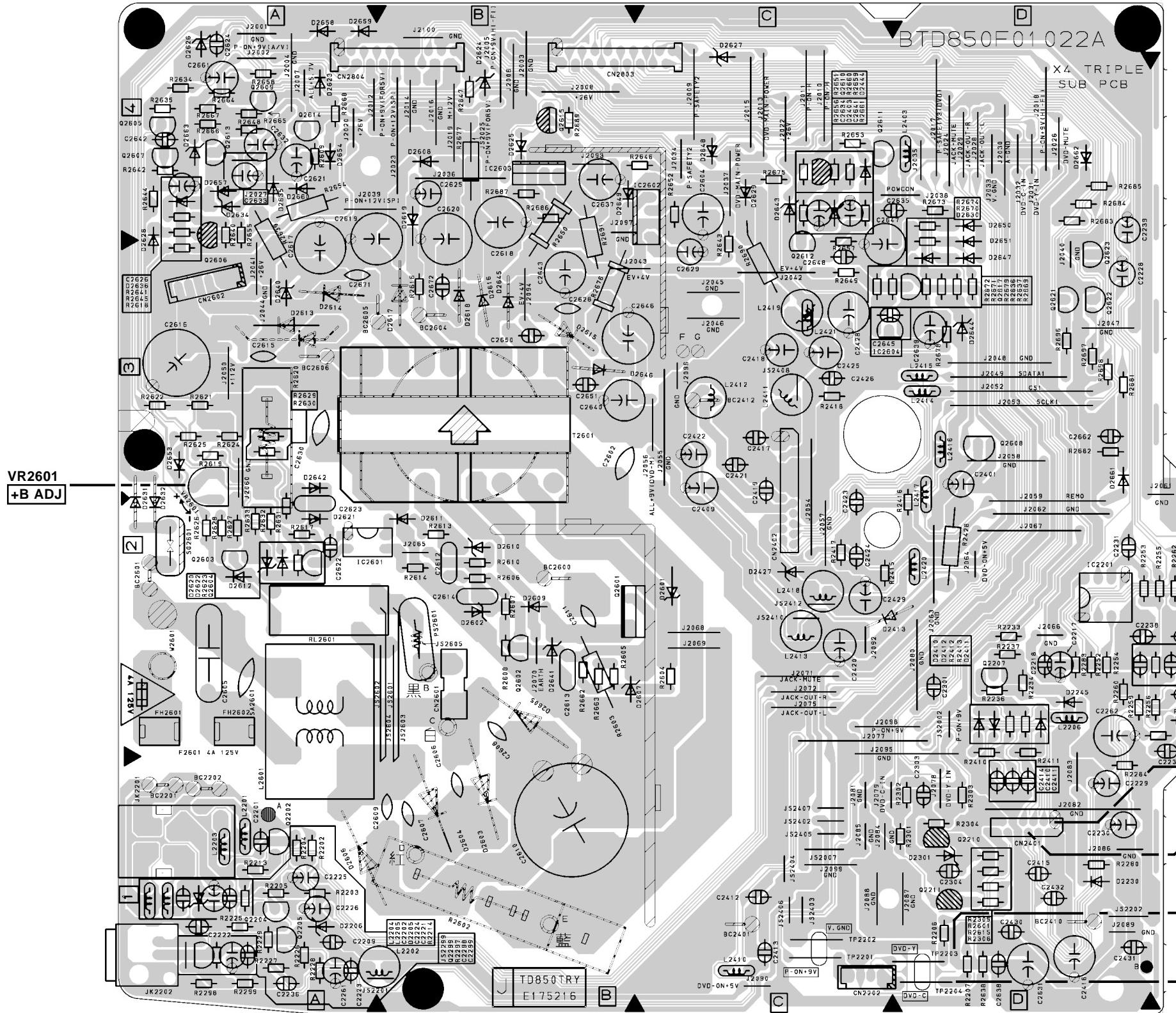
CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED.
ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

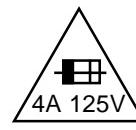


Ref No.	Position
IC2201	D-2
IC2601	A-2
IC2602	C-4
IC2603	B-4
IC2604	C-3
TRANSISTORS	
Q2202	A-1
Q2204	A-1
Q2205	A-1
Q2207	D-2
Q2210	D-1
Q2211	D-1
Q2601	B-2
Q2602	B-2
Q2604	A-2
Q2605	A-4
Q2606	A-4
Q2607	A-4
Q2608	D-3
Q2609	A-4
Q2610	C-4
Q2611	C-4
Q2612	C-3
Q2613	D-3
Q2614	D-3
Q2615	D-1
Q2616	D-1
Q2617	D-1
Q2618	D-1
Q2619	D-1
Q2620	D-1
Q2621	D-1
Q2622	D-1
Q2623	D-1
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Q2908	D-1
Q2909	D-1
Q2910	D-1
Q2911	D-1
Q2912	D-1
Q29	

Power Supply / AV CBA Bottom View < TV/VCR Section >

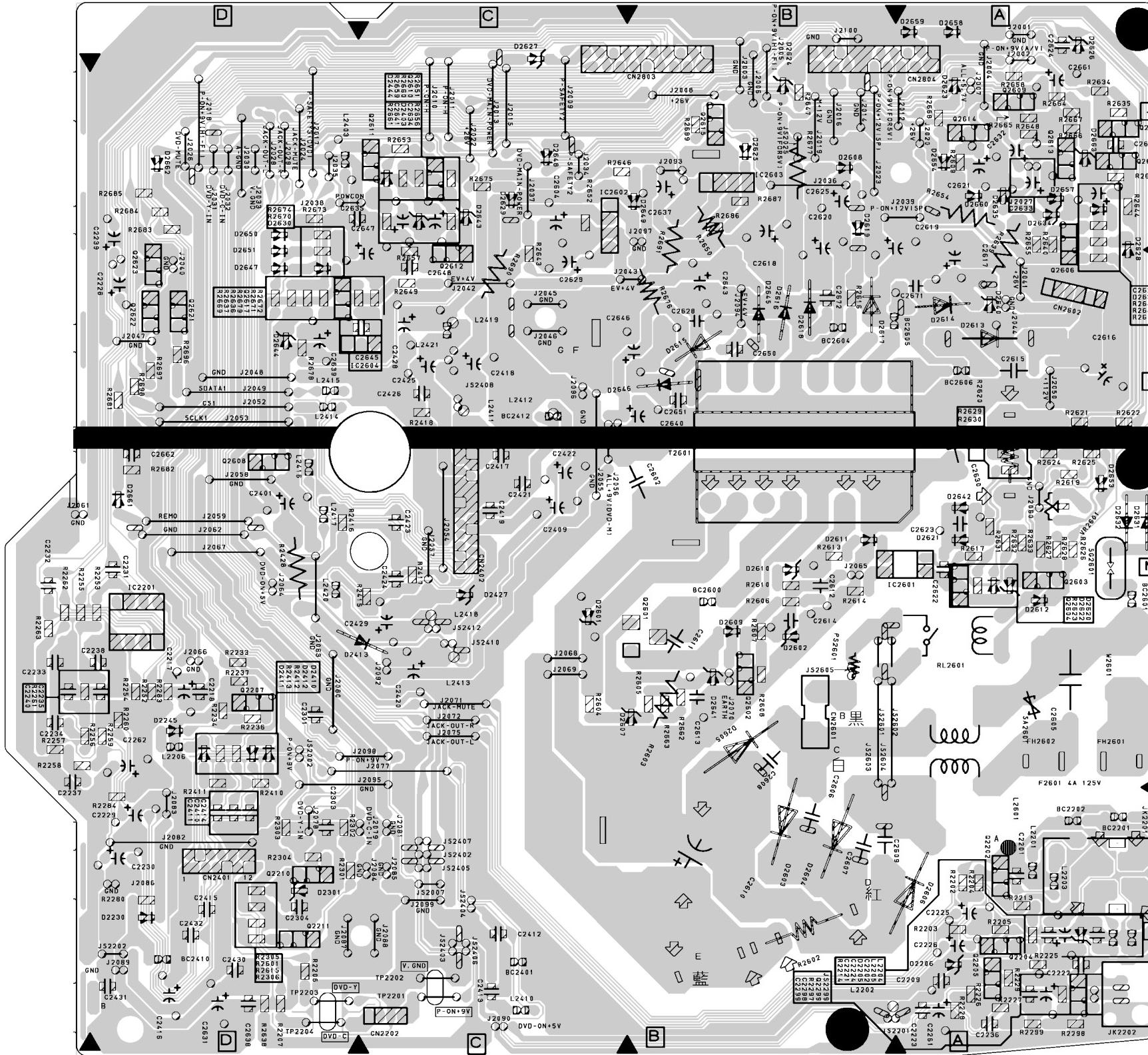
CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F2601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DÉMÊME TYPE DE 4A, 125V.

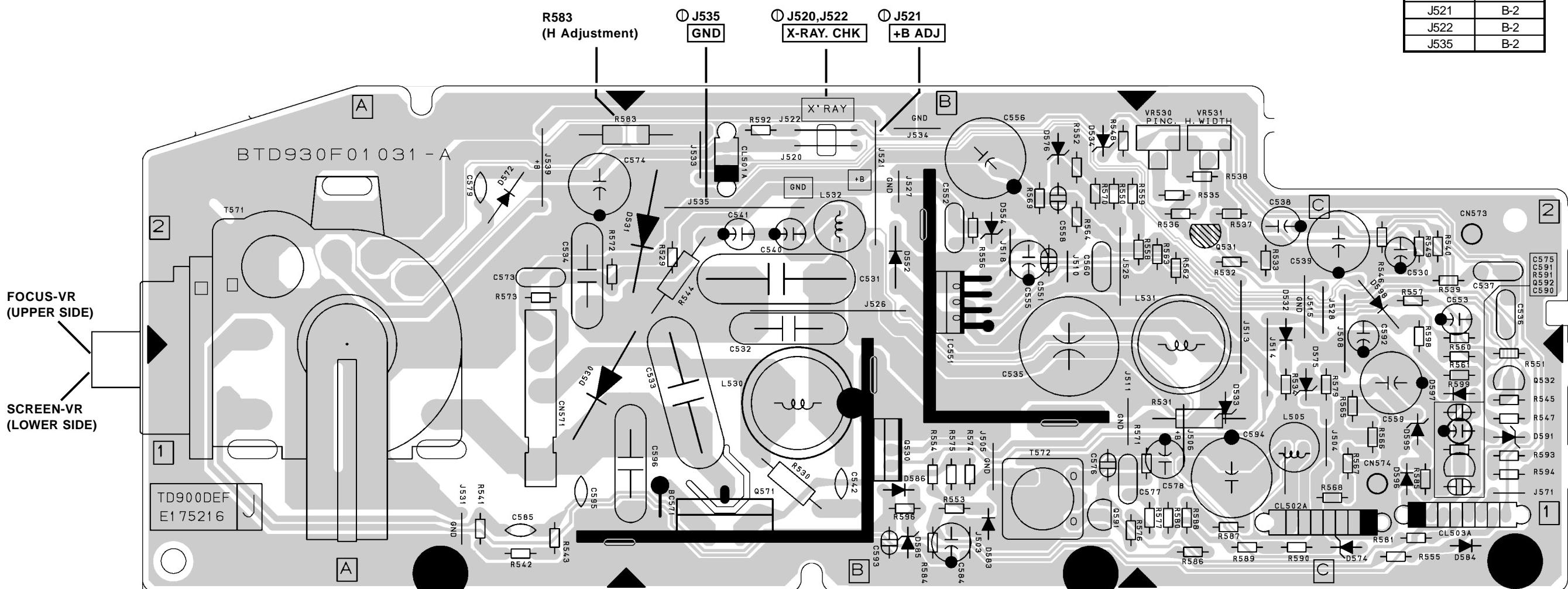
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



NOTE

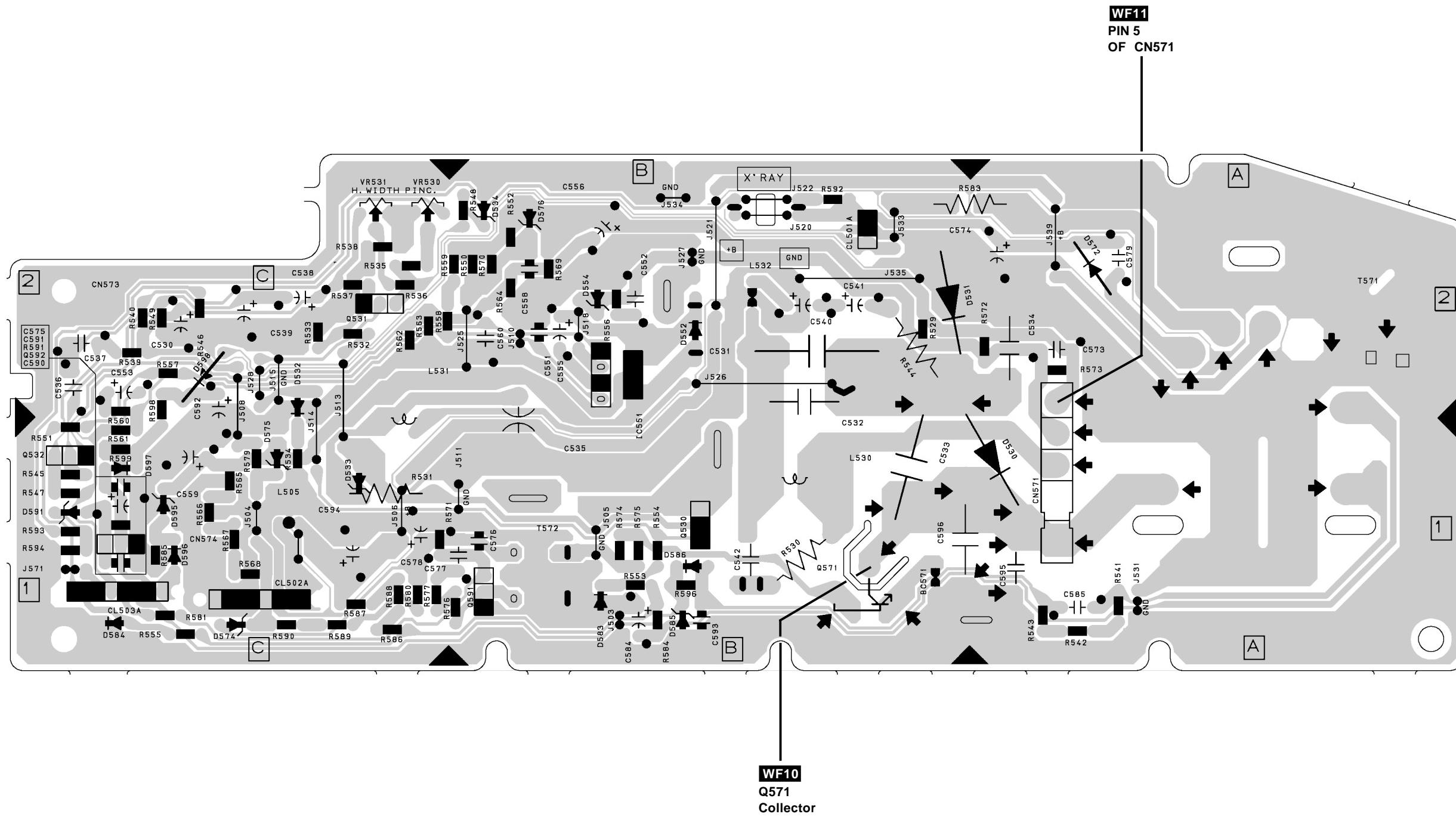
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

H.V. CBA Top View <TV/VCR Section >

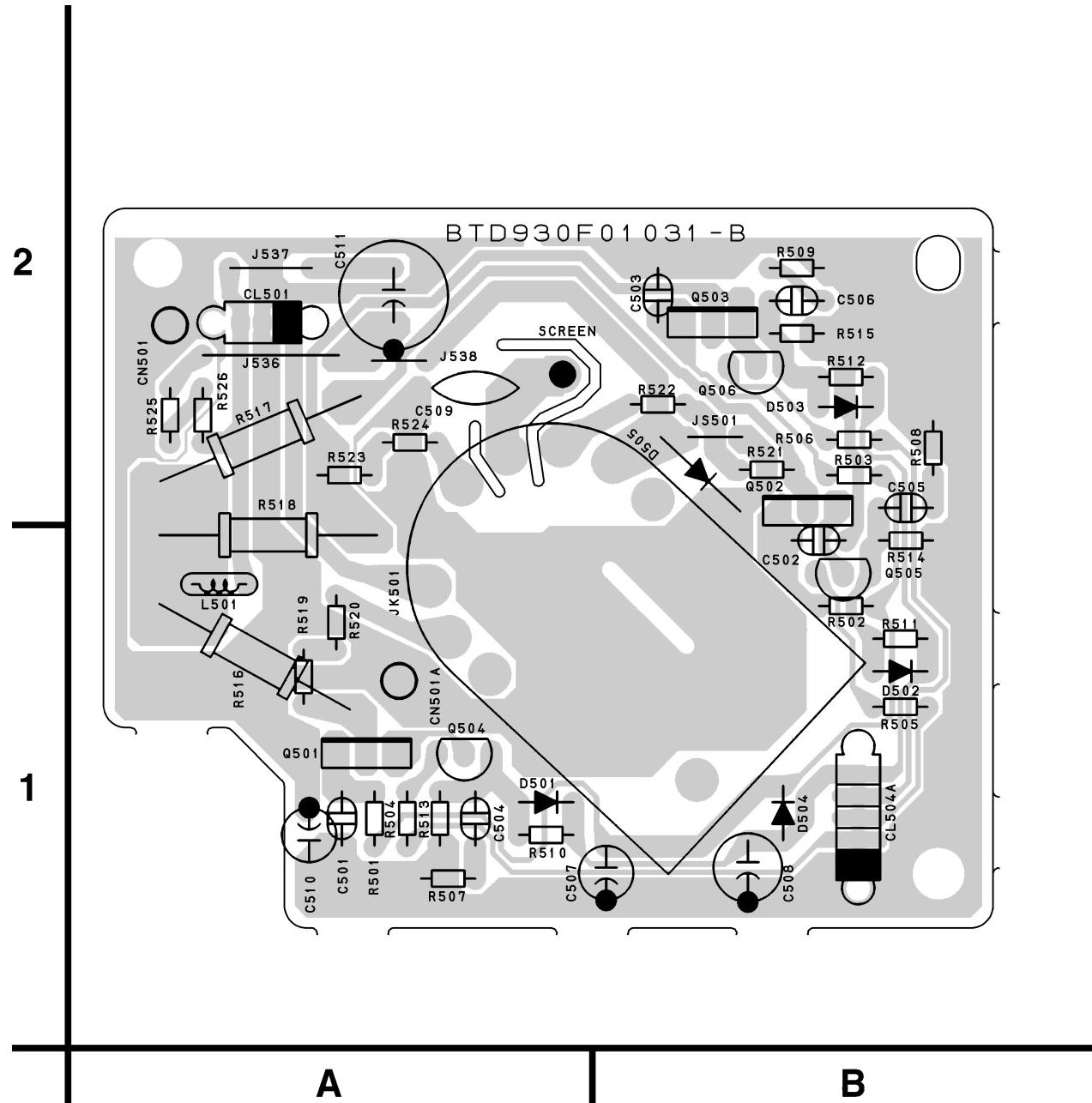


H.V. CBA	
Ref No.	Position
IC	IC
IC551	B-1
TRANSISTORS	
Q571	B-1
Q591	B-1
Q592	C-2
CONNECTORS	
CL501A	B-2
CL502A	C-1
CL503A	C-1
CN571	A-1
TEST POINTS	
J520	B-2
J521	B-2
J522	B-2
J535	B-2

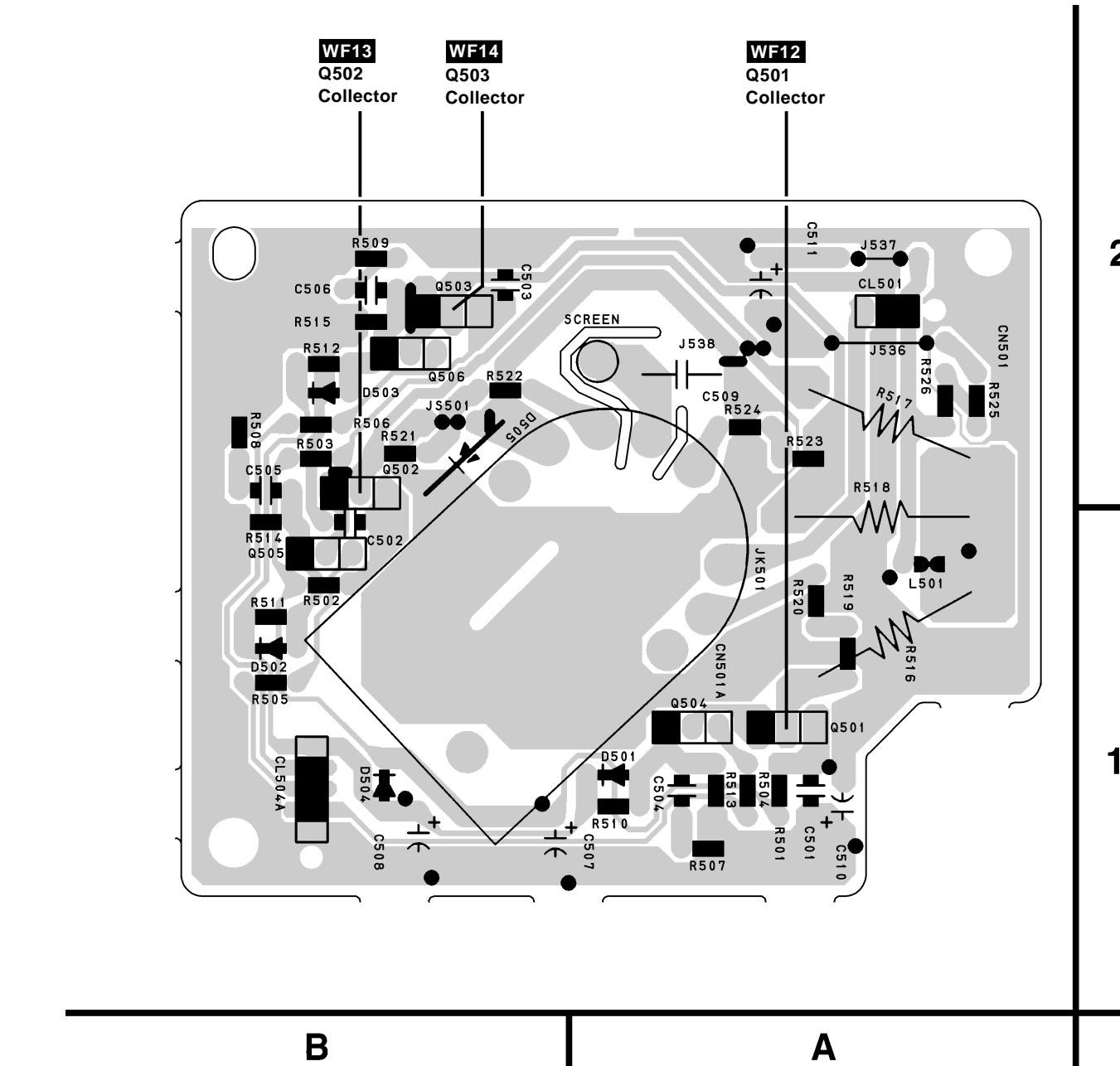
H.V. CBA Bottom View <TV/VCR Section>



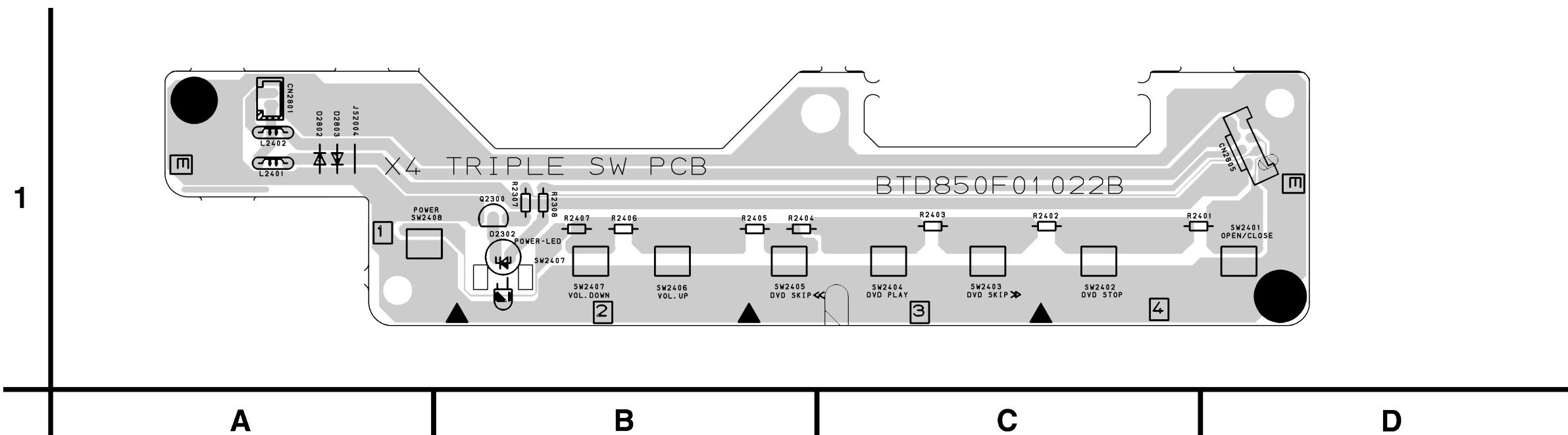
CRT CBA Top View < TV/VCR Section >



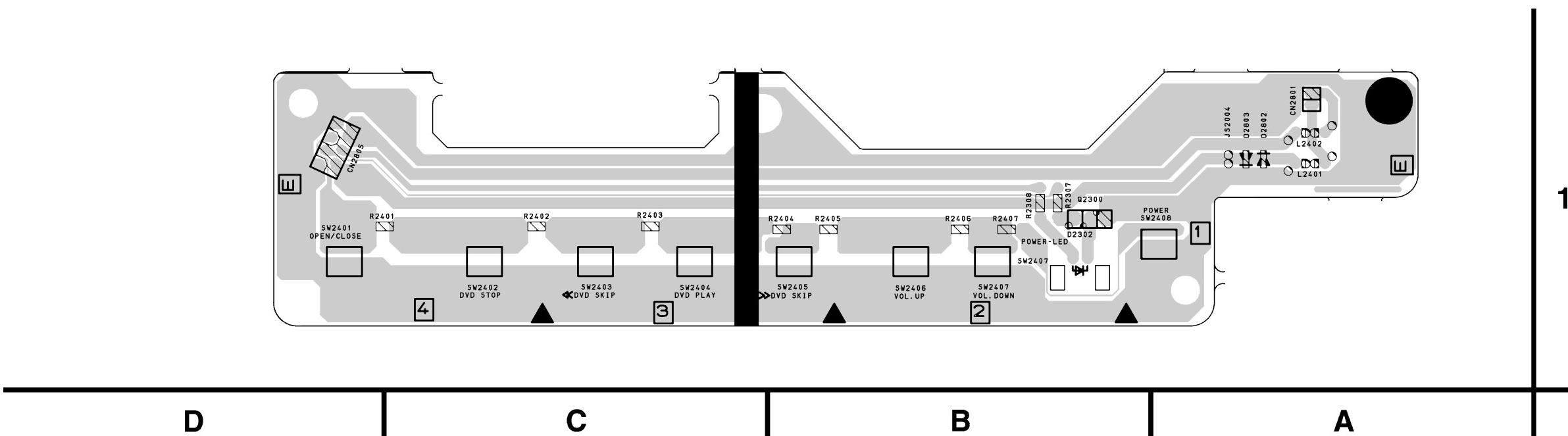
CRT CBA Bottom View < TV/VCR Section >



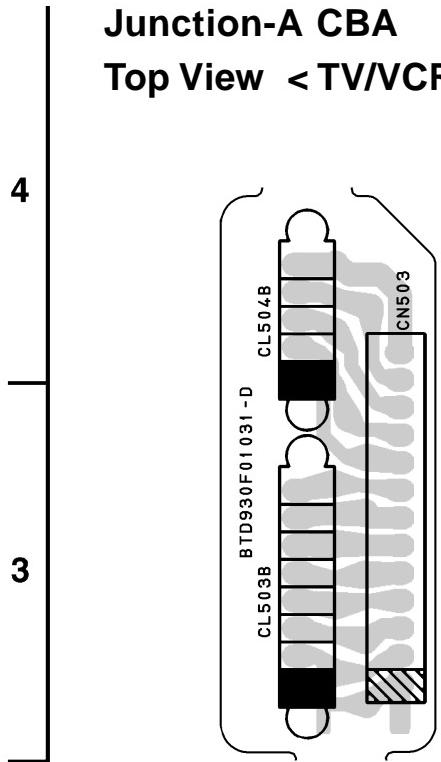
Function CBA Top View < TV/VCR Section >



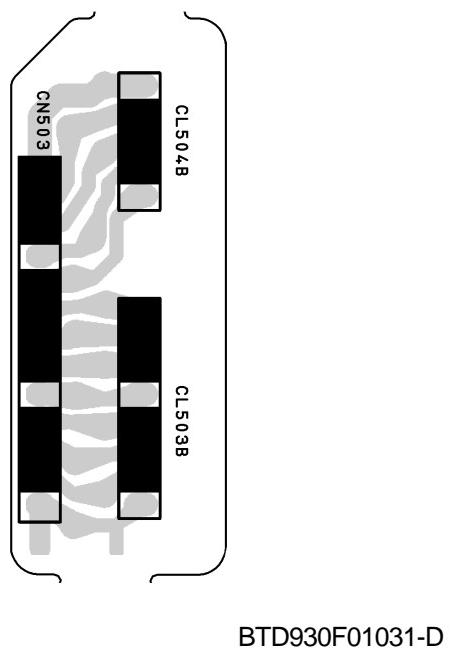
Function CBA Bottom View < TV/VCR Section >



Junction-A CBA
Top View < TV/VCR Section >

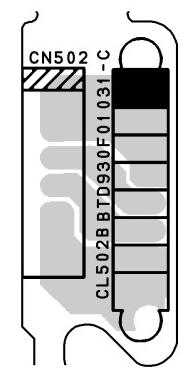


Junction-A CBA
Bottom View < TV/VCR Section >

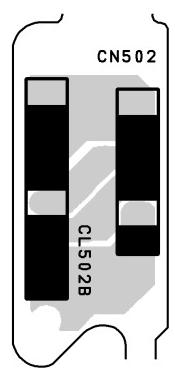


BTD930F01031-D

Junction-B CBA
Top View < TV/VCR Section >



Junction-B CBA
Bottom View < TV/VCR Section >



BTD930F01031-C

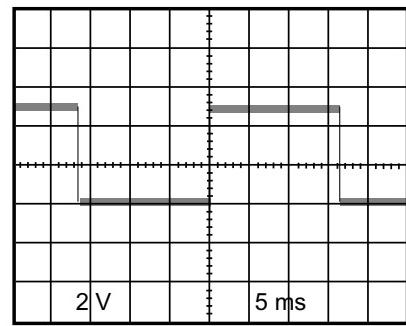
A

B

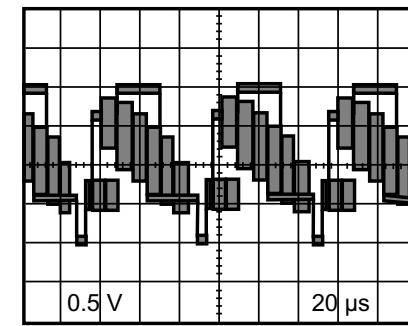
C

D

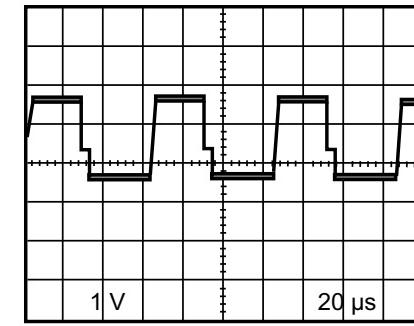
WAVEFORMS



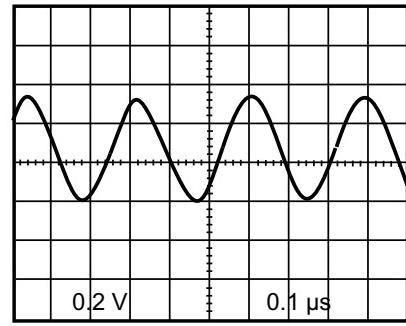
WF1 MAIN 2/5 SCHEMATIC DIAGRAM
TP1401 RF-SW



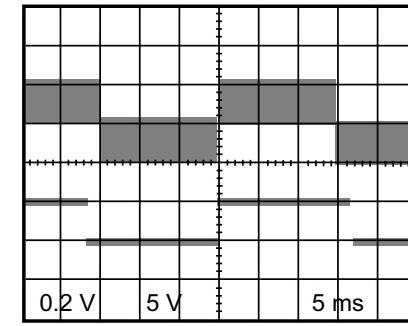
WF5 MAIN 2/5 SCHEMATIC DIAGRAM
TP1402 V-OUT



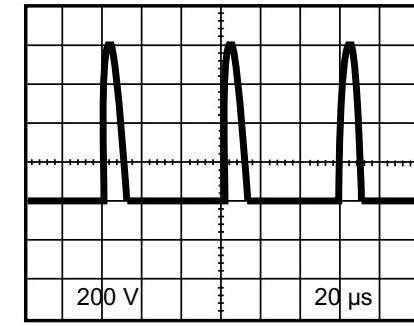
WF9 MAIN 3/5 SCHEMATIC DIAGRAM
IC1301 PIN 41



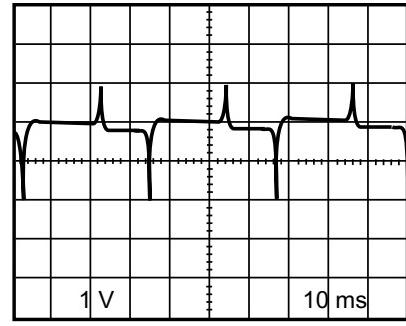
WF2 MAIN 2/5 SCHEMATIC DIAGRAM
IC1401 PIN 61



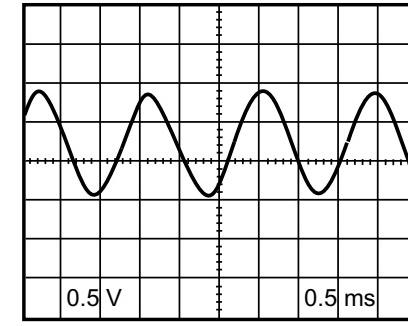
Upper: **WF6** Lower: **WF1**
MAIN 2/5 SCHEMATIC DIAGRAM
TP1403 HA-MONITOR



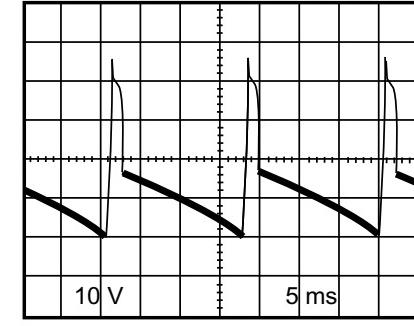
WF10 H.V. SCHEMATIC DIAGRAM
Q571 COLLECTOR



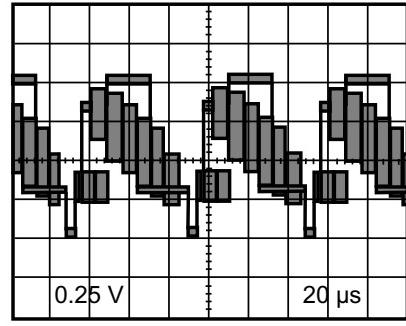
WF3 MAIN 1/5 SCHEMATIC DIAGRAM
TP1201 CTL-AMP-OUT



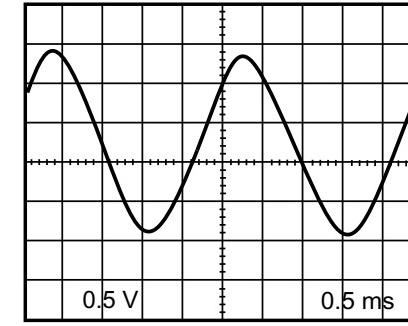
WF7 MAIN 2/5 SCHEMATIC DIAGRAM
TP1802 NA-IN-YCA



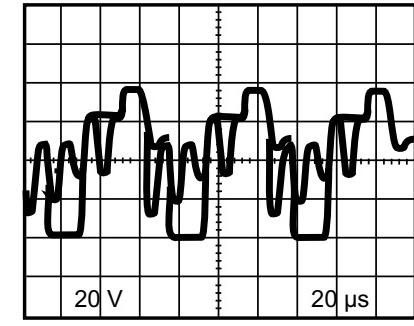
WF11 H.V. SCHEMATIC DIAGRAM
CN571 PIN 5



WF4 MAIN 2/5 SCHEMATIC DIAGRAM
IC1401 PIN 42

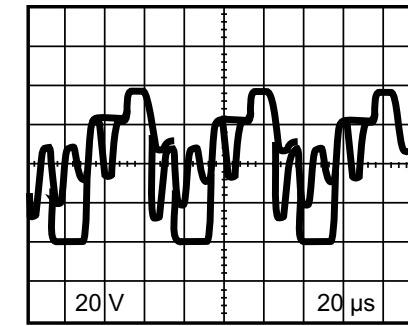


WF8 MAIN 2/5 SCHEMATIC DIAGRAM
IC1401 PIN 7

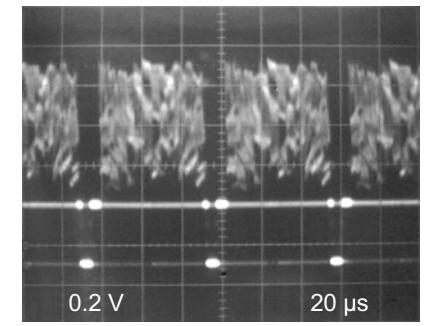


WF12 CRT SCHEMATIC DIAGRAM
Q501 COLLECTOR

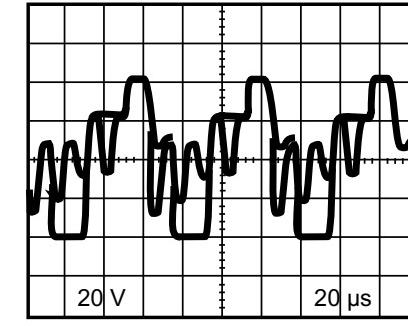
Input:
NTSC Color Bar Signal (with 1kHz Audio Signal) --- WF1~WF16
DVD Video (Power on (Stop) MODE) --- WF17, WF18
CD (1KHz Play) --- WF19, WF20
INITIAL POSITION: Unplug unit from AC outlet for at least five minutes, reconnect to AC outlet and then turn power on.
(Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)



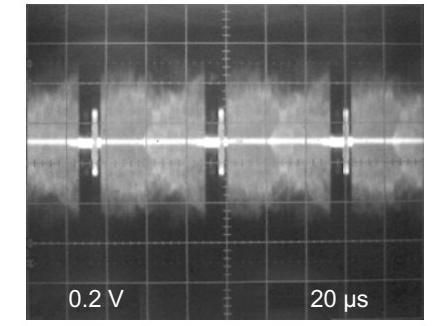
WF13 CRT SCHEMATIC DIAGRAM
Q502 COLLECTOR



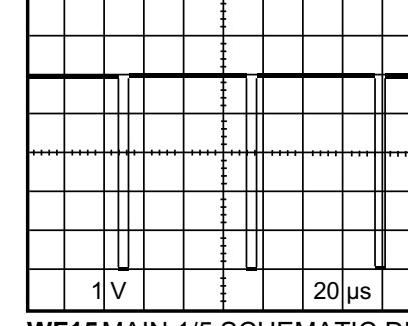
WF17 POWER SUPPLY/AV 2/2
SCHEMATIC DIAGRAM
TP2203 DVD-Y



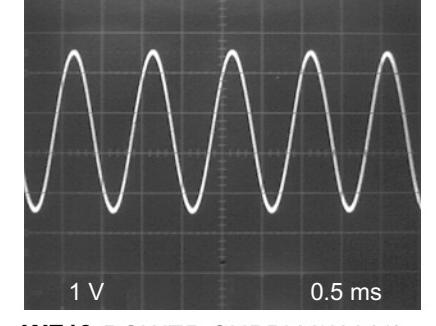
WF14 CRT SCHEMATIC DIAGRAM
Q503 COLLECTOR



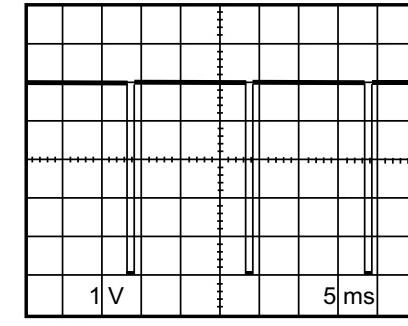
WF18 POWER SUPPLY/AV 2/2
SCHEMATIC DIAGRAM
TP2204 DVD-C



WF15 MAIN 1/5 SCHEMATIC DIAGRAM
IC1201 PIN 58

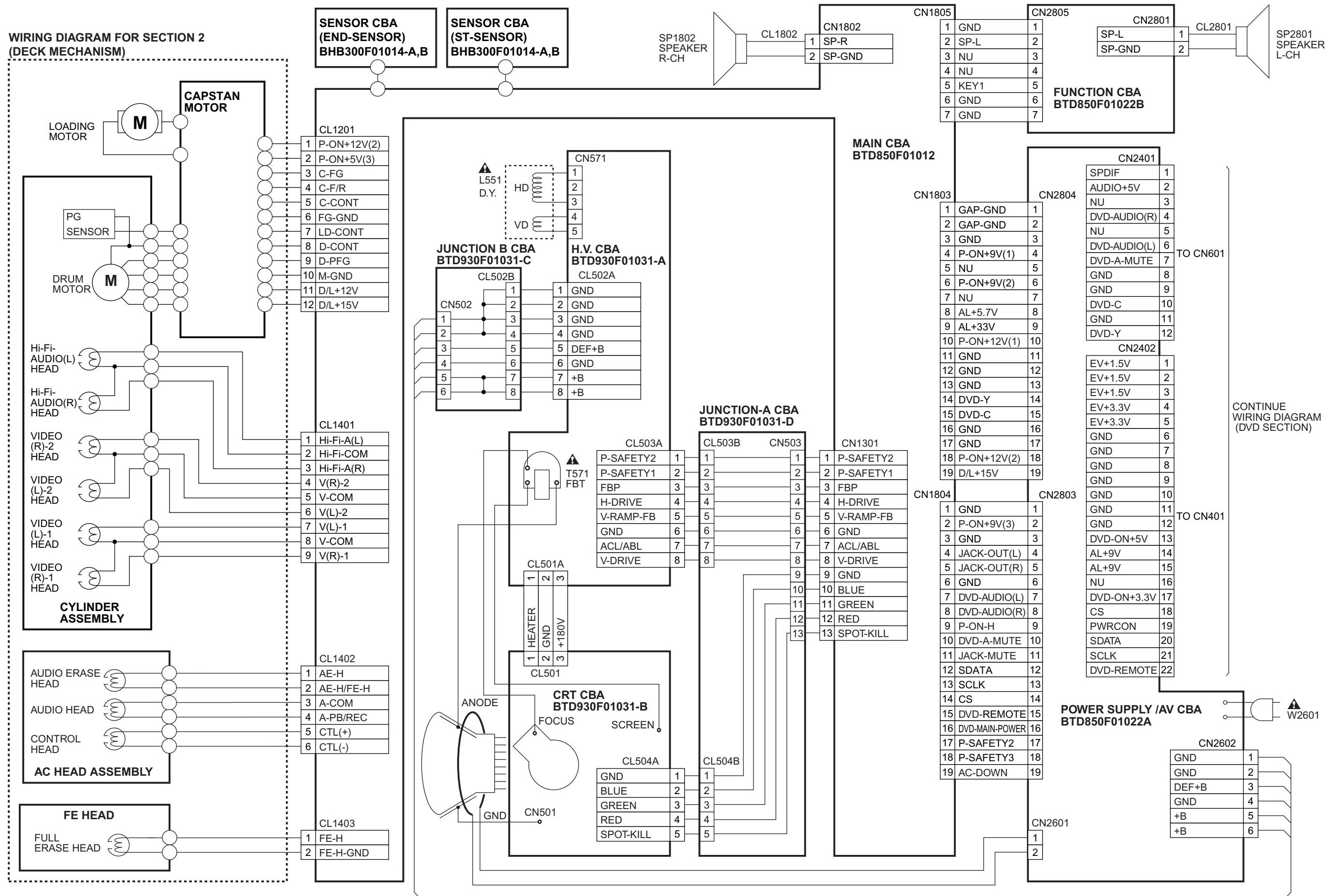


WF19 POWER SUPPLY/AV 2/2
SCHEMATIC DIAGRAM
CN2401 PIN 6

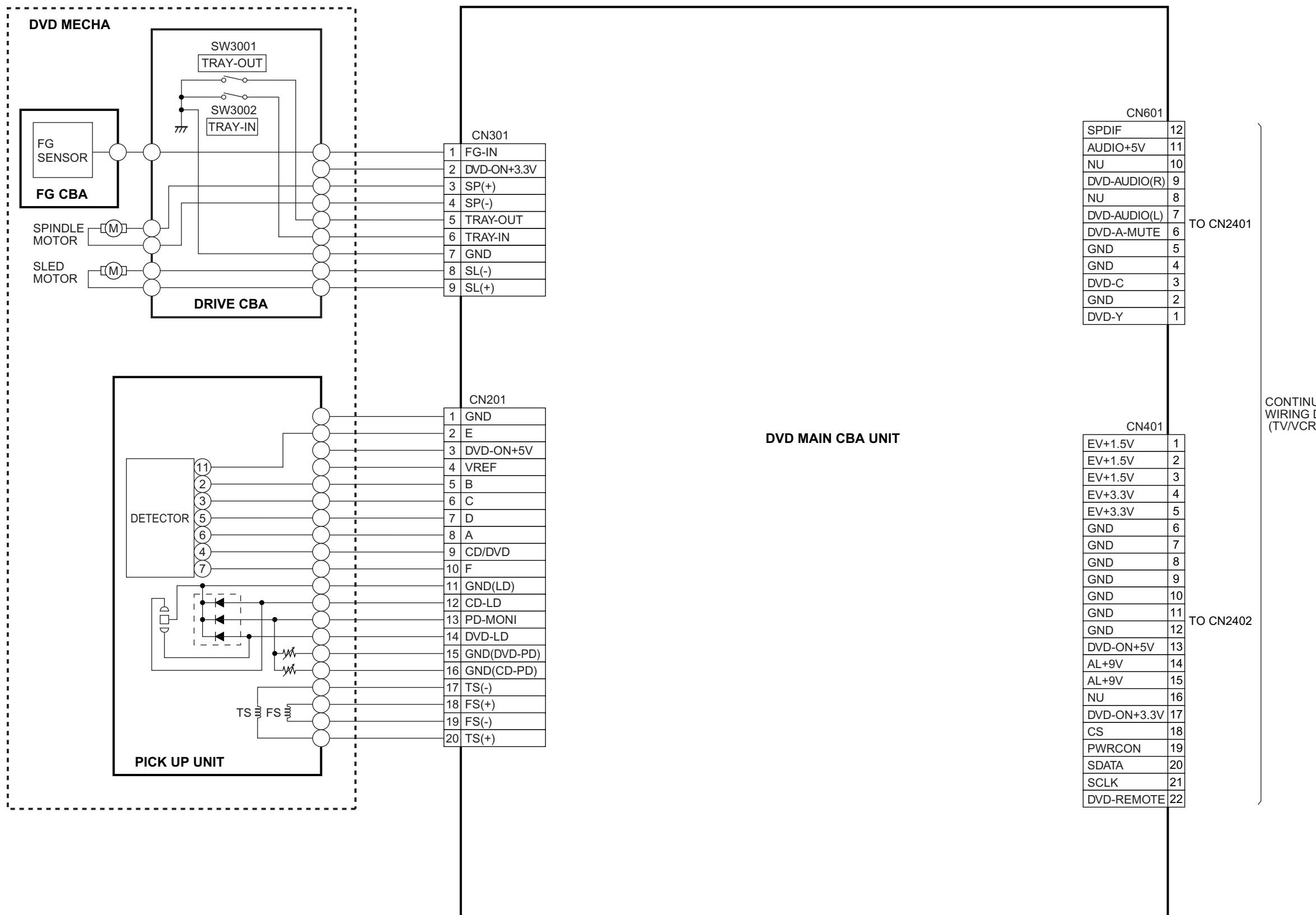


WF20 POWER SUPPLY/AV 2/2
SCHEMATIC DIAGRAM
CN2401 PIN 1

WIRING DIAGRAM < TV/VCR SECTION >



WIRING DIAGRAM < DVD SECTION >



SYSTEM CONTROL TIMING CHARTS

[VCD SECTION]

Mode SW : LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76V~4.50V (4.12V)	EJ
4.51V~5.00V (5.00V)	CL
0.00V~0.25V (0.00V)	SB
1.06V~1.50V (1.21V)	TL
0.66V~1.05V (0.91V)	FB
1.99V~2.60V (2.17V)	SF
1.51V~1.98V (1.80V)	SM
3.20V~3.75V (3.40V)	AU
0.26V~0.65V (0.44V)	AL
4.51V~5.00V (5.00V)	SS
2.61V~3.19V (2.97V)	RS

↑ Note:

Note:

EJ → RS: Loading FWD (LM-FWD/REV "H")

RS → EJ: Loading REV (LM-FWD/REV "L")

Stop (A) = Loading

Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop(B)
TL	Stop(B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop(M), (FF / REW)
SM	Stop(M), (FF / REW) ~ Stop(A)
AU	Stop(A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Chart 1

1) SP MODE

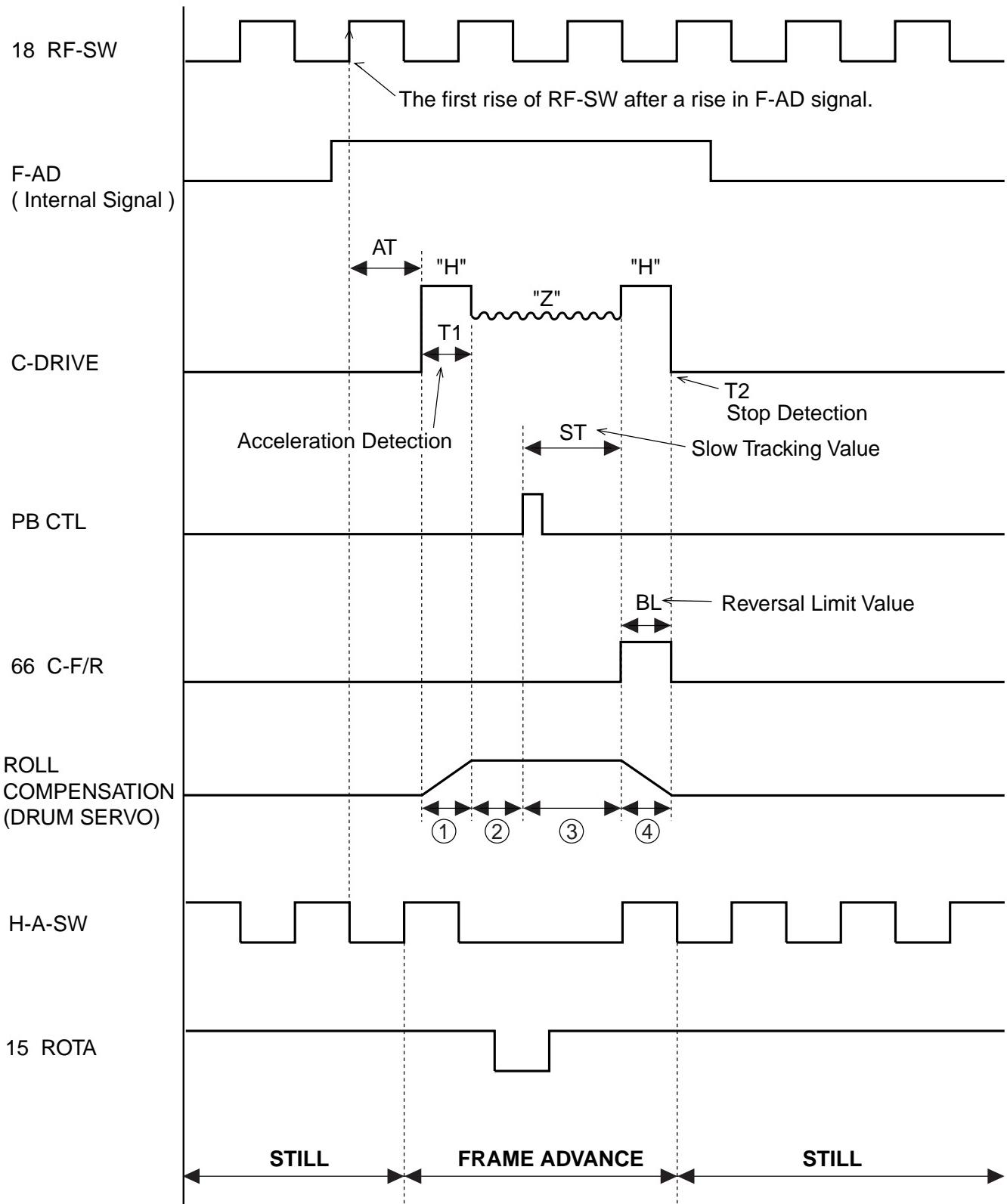
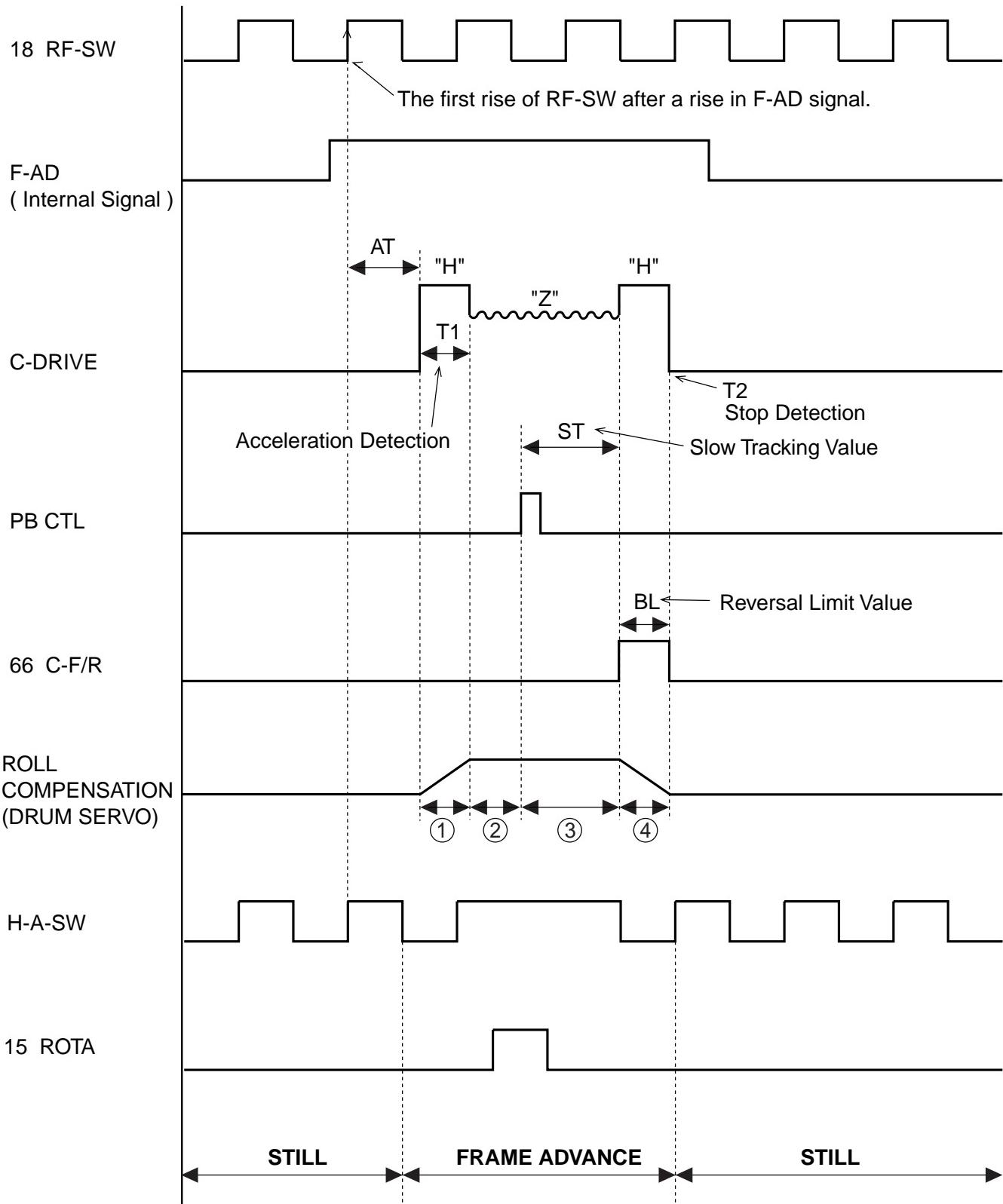


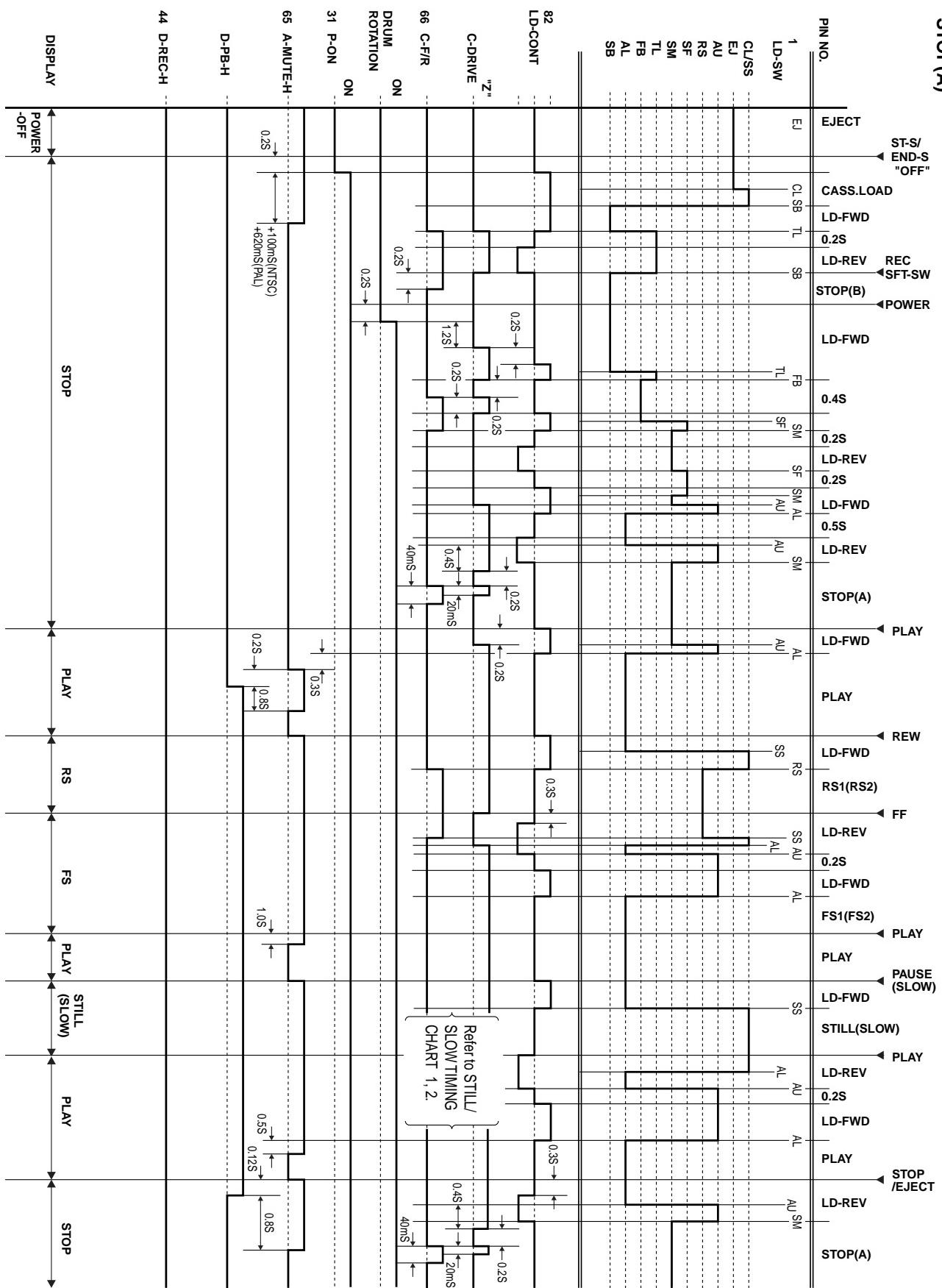
Chart 2

2) LP/EP MODE



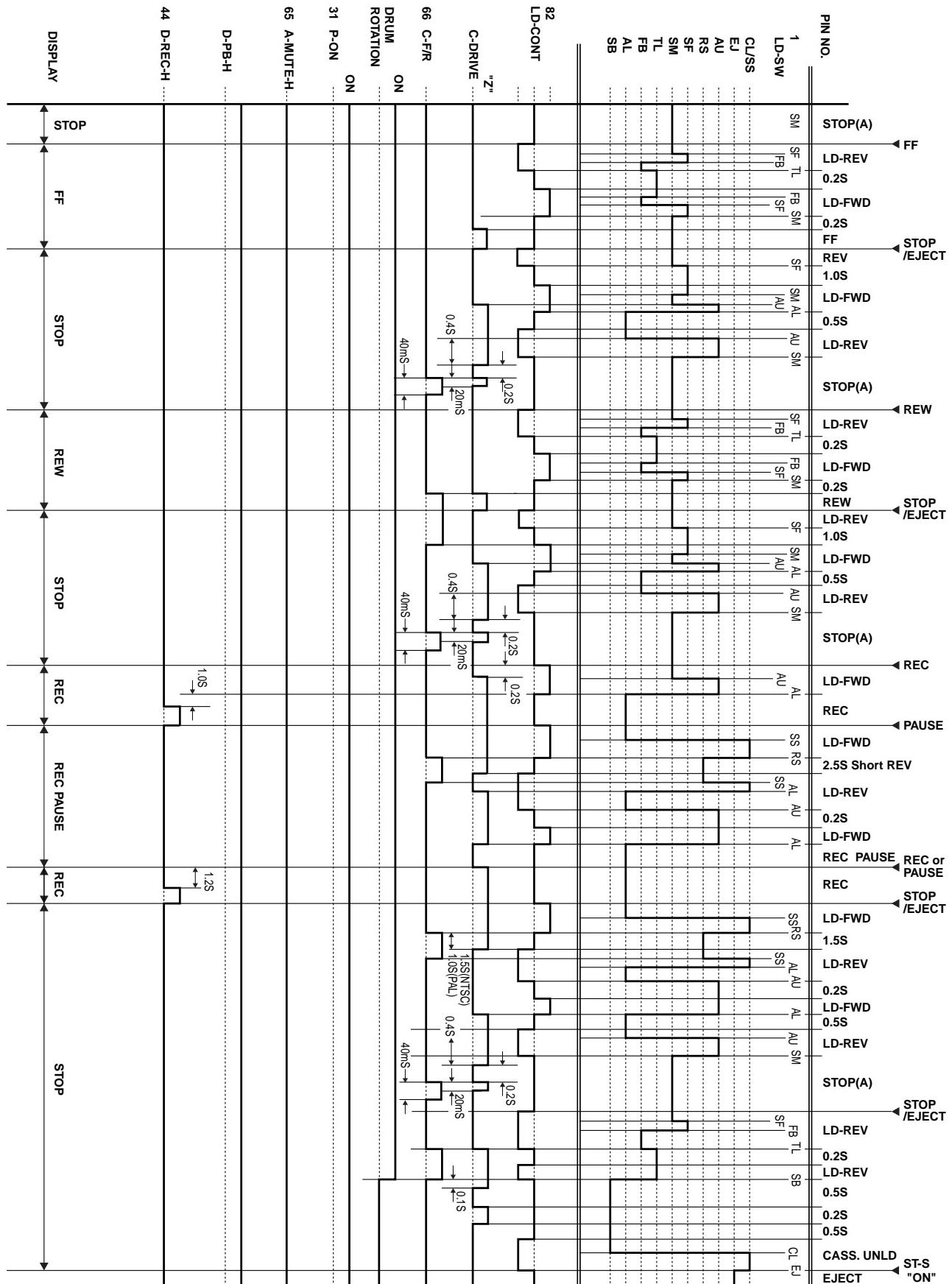
1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL/SLOW -> PLAY -> STOP(A)

Chart 3



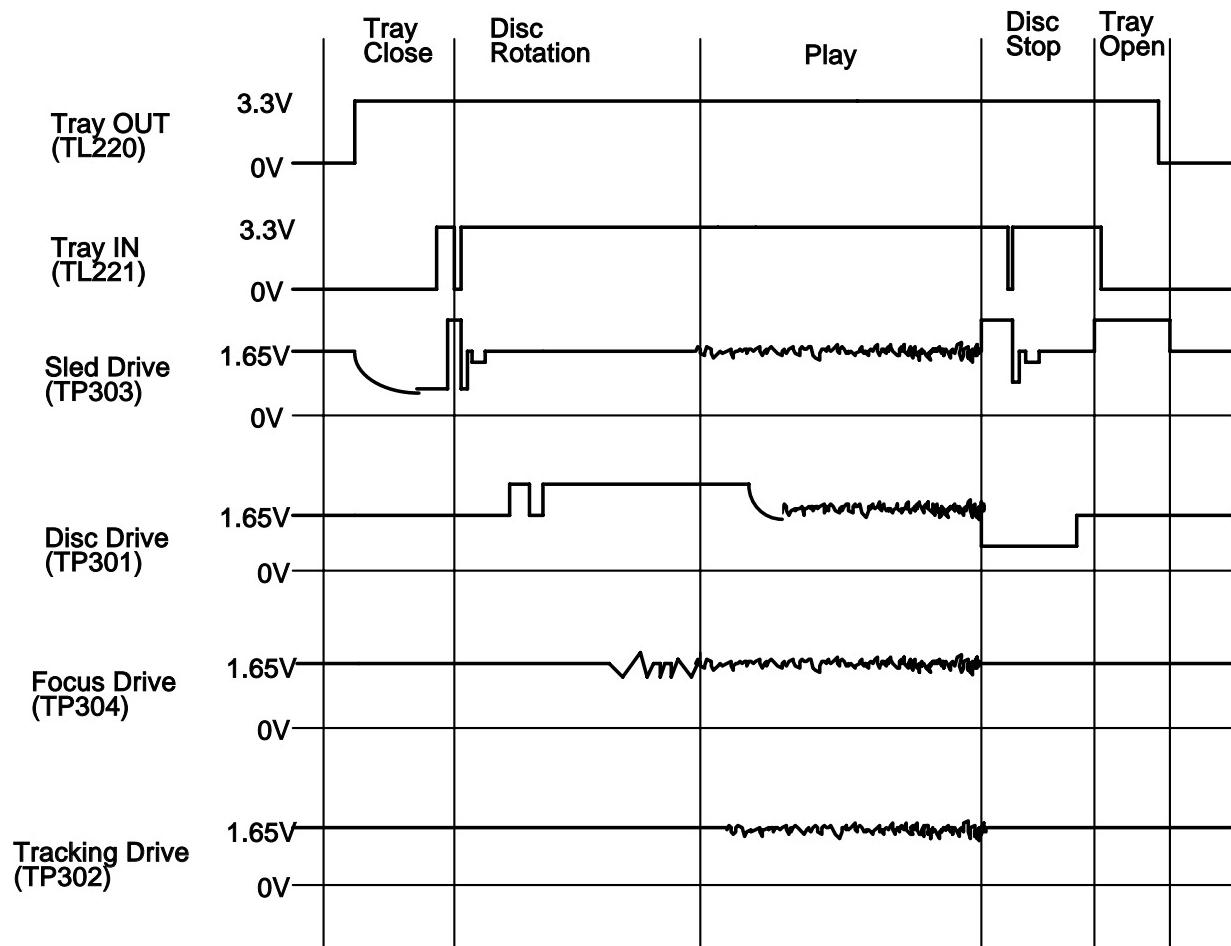
2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT

Chart 4



[DVD SECTION]

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

IC1201 (TV/VCR Micro Computer)

"H" ≥ 4.5V, "L" ≤ 1.0V

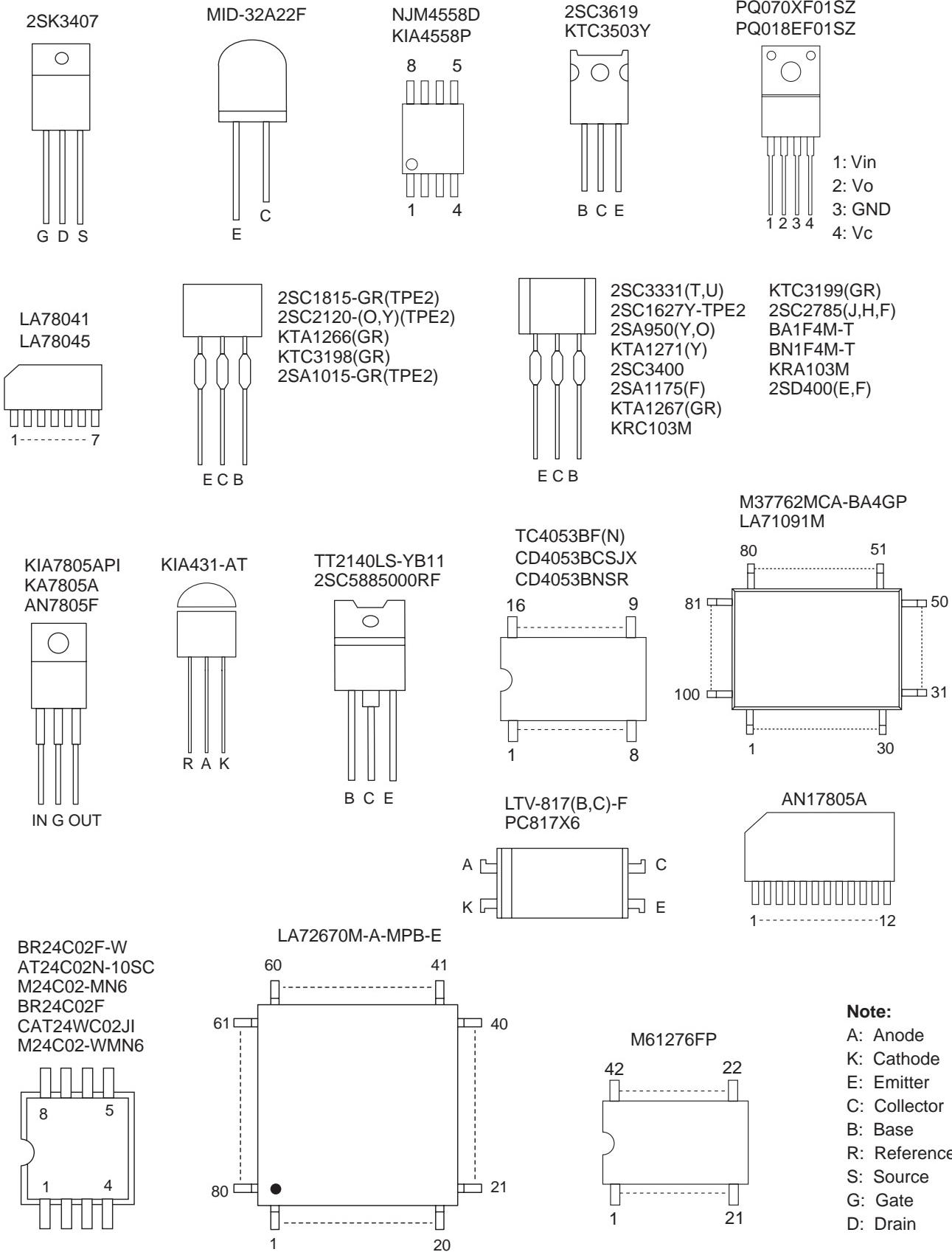
Pin No.	IN/OUT	Signal Name	Function
1	IN	LD-SW	Loading Switch Input
2	IN	P-SAFETY 1	Power Supply Failure Detection 1
3	IN	P-SAFETY 2	Power Supply Failure Detection 2
4	IN	ST/SAP-IN	Tuner Stereo/Sap Detector Signal Input
5	IN	KEY0	Key 0 Input
6	IN	KEY1	Key 1 Input
7	IN	END-SENS	End-Sensor
8	IN	AFT	AFT Input
9	IN	ST-SENS	Start-Sensor
10	IN	V-ENV	Video Envelope Input
11	OUT	VOL-CONT	Output Volume Control Signal
12	-	NU	Not Used
13	OUT	DV-SYNC	Artificial V-Sync Output
14	IN	REMOTE	Remote Signal Input
15	OUT	ROTA	Color Phase Rotary Changeover Signal
16	OUT	V-H-SW	Video Head Amp Switching Pulse
17	IN	ENV-DET	Envelope Comparator Signal
18	OUT	RF-SW	Video Head Switching Pulse
19	OUT	Hi-Fi-H-SW	HiFi Audio Head Switching Pulse
20	-	NU	Not Used
21	OUT	REC-LED	Recording LED Control Signal
22	IN	NORMAL-H	Audio Mode Input Signal
23	OUT	ACL-CONT	ACL Control Signal
24	-	NU	Not Used
25	-	DVD-REMOTE	Remote Control Signal to DVD
26	OUT	TV/VCR-LED	TV/VCR Mode LED Control Signal
27	OUT	REC/EE/PB	YCA IC Mode Output

Pin No.	IN/OUT	Signal Name	Function
28	IN/OUT	SP/LP/SLP	Tape Speed Control Output
29	OUT	EXT-H	External Input or Playback Signal Output
30	OUT	RENTAL	Rental Position Control Signal
31	OUT	P-ON-H	Power On Signal at High
32	OUT	SPL-PLAY	Special Playback Control Signal
33	IN	REC-SAFETY	Record Protection Tab Detection
34	IN	RESET	System Reset Signal (Reset="L")
35	IN	XC-IN	Sub Clock 32 kHz
36	OUT	XC-OUT	Sub Clock 32 kHz
37	-	TIMER+5V	Vcc
38	IN	X-IN	Main Clock Input
39	OUT	X-OUT	Main Clock Output
40	-	GND	GND
41	OUT	SPOT-KILL	Counter-measure for Spot
42	IN	DVD-MAIN-POWER	Power On Signal to High for DVD
43	IN	CLKSEL	Clock Select (GND)
44	OUT	D-REC-H	Delayed Record Signal
45	IN	I2C-OPEN	White Balance Adjust Mode Judgment
46	-	GND	GND
47	-	NU	Not Used
48	OUT	DVD-H	DVD at High
49	-	GND	OSD GND
50	-	CS	Chip Select
51	OUT	SCLK	HiFi Communication Clock
52	IN/OUT	SDATA	Serial Data
53	-	P-ON+5V	OSD Vcc
54	-	HLF	HLF
55	IN	V-HOLD	VHOLD
56	IN	CV-IN	Video Signal Input
57	-	GND	GND
58	IN	H-SYNC	H-SYNC Input

Pin No.	IN/OUT	Signal Name	Function
59	IN	V-SYNC	V-SYNC Input
60	OUT	OSD-BLK	Output for Picture Cut off
61	-	NU	Not Used
62	OUT	OSD-B	Blue Output
63	OUT	OSD-G	Green Output
64	OUT	OSD-R	Red Output
65	OUT	A-MUTE	Audio Mute Output
66	OUT	C-F/R	Capstan Motor FWD/REV Control Signal
67	OUT	JACK-MUTE	Earphone Jack Audio Mute Output
68	-	NU	Not Used
69	OUT	DVD-A-MUTE	DVD Audio Mute Signal
70	-	NU	Not Used
71	OUT	SCL	E2PROM/CHROMA IC Tuner Communication Clock
72	IN/OUT	SDA	E2PROM/CHROMA IC Tuner Communication Data
73	-	NU	Not Used
74	IN	C-SYNC	C-Sync Input
75	-	NU	Not Used
76	OUT	C-CONT	Capstan Motor Control Signal
77	OUT	D-CONT	Drum Motor Control Signal
78	IN	P-SAFETY 3	Power Supply Failure Detection 3
79	-	NU	Not Used
80	IN	T-REEL	Take Up Reel Rotation Signal
81	-	NU	Not Used
82	OUT	LD-CONT	Loading Motor Control Signal
83	-	NU	Not Used
84	IN	P-DOWN	Power Voltage Down Detector Signal
85	-	NU	Not Used
86	-	NU	Not Used
87	IN	C-FG	Capstan Motor Rotation Detection Pulse
88	-	GND	GND (AMP)
89	-	NU	Not Used

Pin No.	IN/OUT	Signal Name	Function
90	IN	D-PFG	Drum Motor Pulse Generator
91	-	NU	Not Used
92	OUT	AMP-VREF-IN	Standard Voltage Input
93	-	C	C
94	IN/OUT	CTL (-)	CTL (-)
95	IN/OUT	CTL (+)	CTL (+)
96	-	AMPC	AMPC
97	OUT	CTL-AMP-OUT	Control Amp Output
98	-	P-ON+5V	Power Supply for AMP
99	-	AL+5V	A/D, D/A Standard Voltage
100	-	NU	Not Used

LEAD IDENTIFICATIONS



DECK MECHANISM SECTION

20" COLOR TV/DVD/VCR

6720FDD

Sec. 2: Deck Mechanism Section

- Standard Maintenance
- Alignment for Mechanism
- Disassembly/Assembly of Mechanism
- Alignment Procedures of Mechanism

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Service Fixtures and Tools	2-2-1
Mechanical Alignment Procedures	2-3-1
Disassembly / Assembly Procedures of Deck Mechanism	2-4-1
Alignment Procedures of Mechanism	2-4-9

STANDARD MAINTENANCE

Service Schedule of Components

H: Hours ○: Check ●: Change

Deck		Periodic Service Schedule			
Ref.No.	Part Name	1,000 H	2,000 H	3,000 H	4,000 H
B2	Cylinder Assembly	○	●	○	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B587	Tension Lever Assembly		●		●
B31	AC Head Assembly			●	
B573,B574	Reel (SP)(D2), Reel (TU)(D2)			●	
B37	Capstan Motor		●		●
B52	Cap Belt		●		●
*B73	FE Head			●	
B133,B134	Idler Gear, Idler Arm		●		●
B410	Pinch Arm(A) Assembly		●		●
B414	M Brake (SP) Assembly		●		●
B416	M Brake (TU) Assembly		●		●
B525	LDG Belt		●		●
B569 (2 head only)	Cam Holder (F)		●		●
B593 (4 head, 4 head HiFi only)	Cam Holder (F) Assembly		●		●

Notes:

- 1.Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / Audio Control Head / Full Erase Head) using 90% Isopropyl Alcohol.
- 2.After cleaning the parts, do all DECK ADJUSTMENTS.
- 3.For the reference numbers listed above, refer to Deck Exploded Views.
* B73 ----- Recording Model only

Cleaning

Cleaning of Video Head

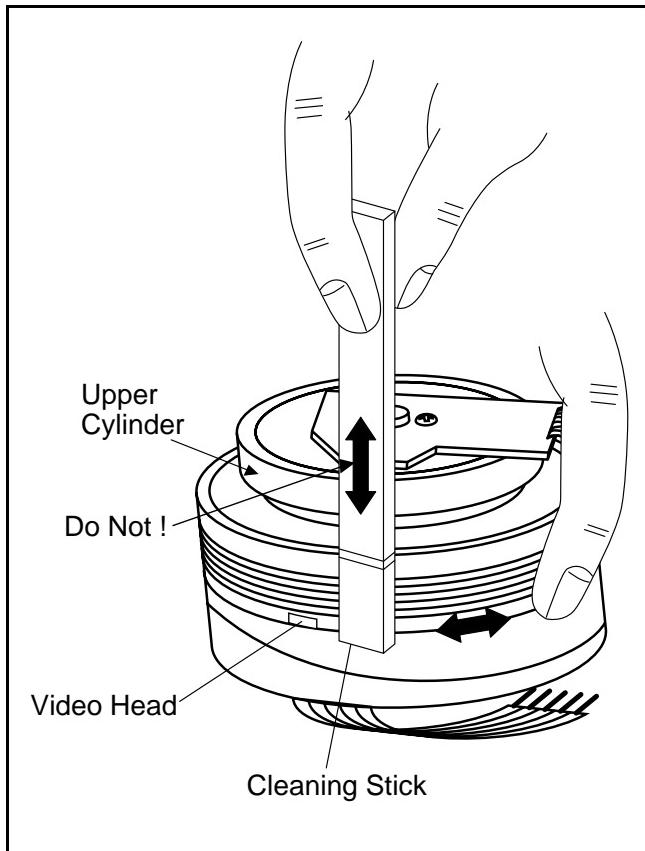
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% Isopropyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of Audio Control Head

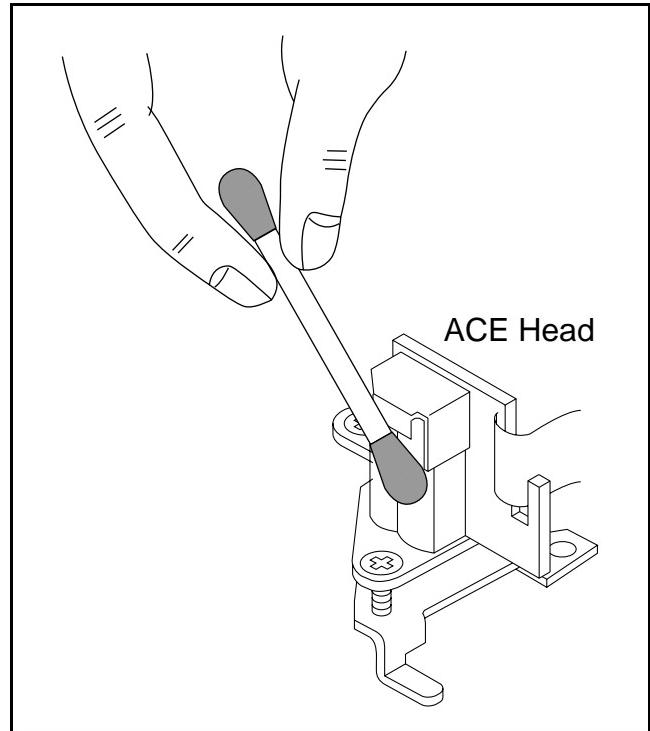
Clean the head with a cotton swab.

Procedure

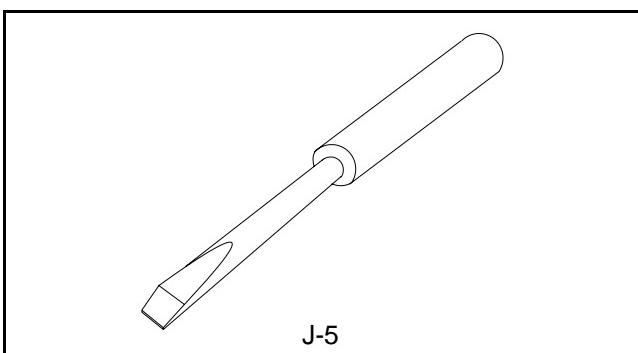
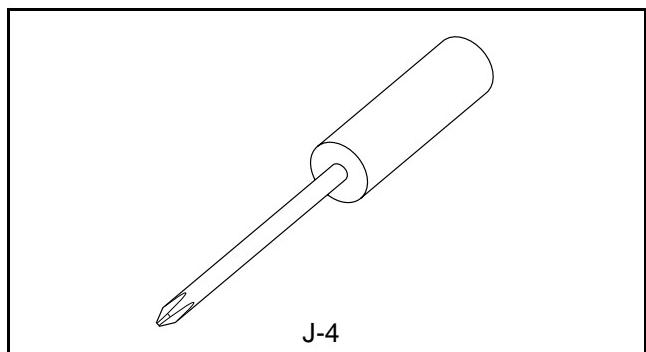
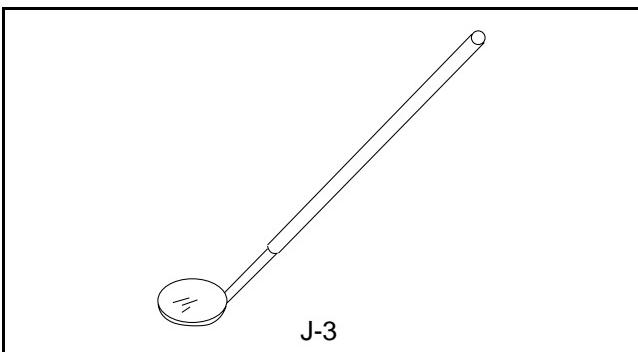
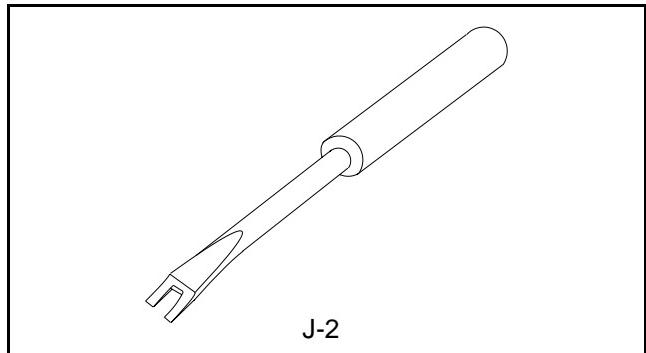
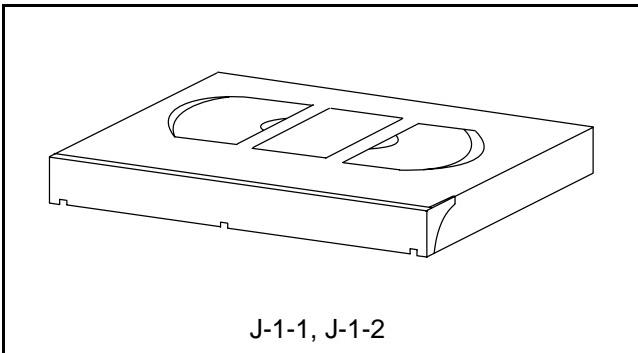
1. Remove the top cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the audio control head. Be careful not to damage the upper drum and other tape running parts.

Notes:

1. Avoid cleaning the audio control head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



SERVICE FIXTURE AND TOOLS



Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	FL8A	Head Adjustment of Audio Control Head
J-1-2	Alignment Tape	FL8N (2Head only) FL8NW (4Head only)	Azimuth and X Value Adjustment of Audio Control Head / Adjustment of Envelope Waveform
J-2	Guide Roller Adj.Screwdriver	Available Locally	Guide Roller
J-3	Mirror	Available Locally	Tape Transportation Check
J-4	Azimuth Adj.Screwdriver +	Available Locally	A/C Head Height
J-5	X Value Adj.Screwdriver -	Available Locally	X Value

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 for a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Make sure that the Moving guide preparations are in the Eject Position.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 until the Moving guide preparations come to the Eject Position. Stop turning when the preparations begin clicking or can not be moved further. However, the tape will be left wound around the cylinder.
5. Turn the LDG Belt in the appropriate direction continuously, and the cassette tape will be ejected. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Case and Front Assembly.
3. Turn the LDG Belt in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the LDG Belt until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.

Top View

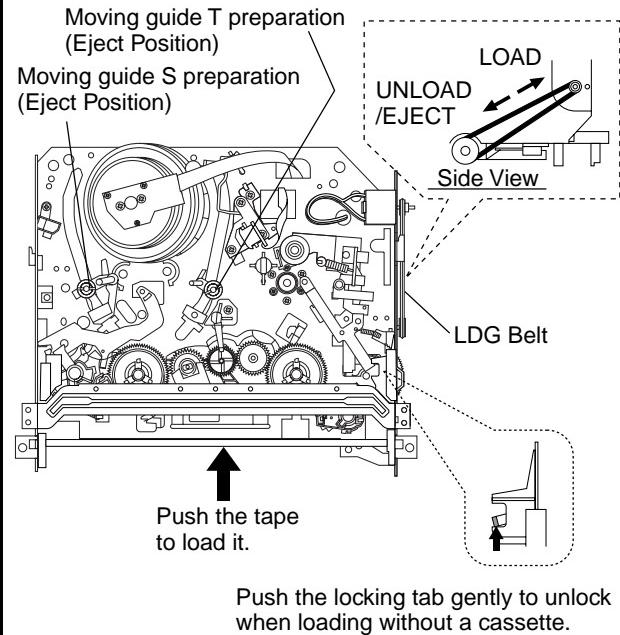


Fig. M1

Bottom View

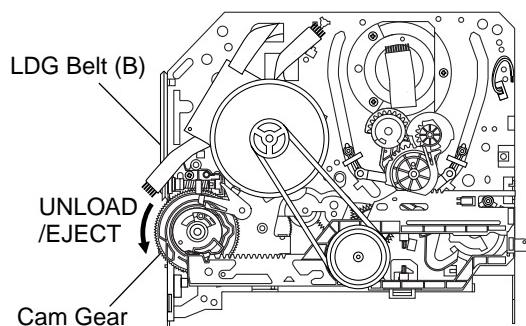


Fig. M2

1.Tape Interchangeability Alignment

Note:

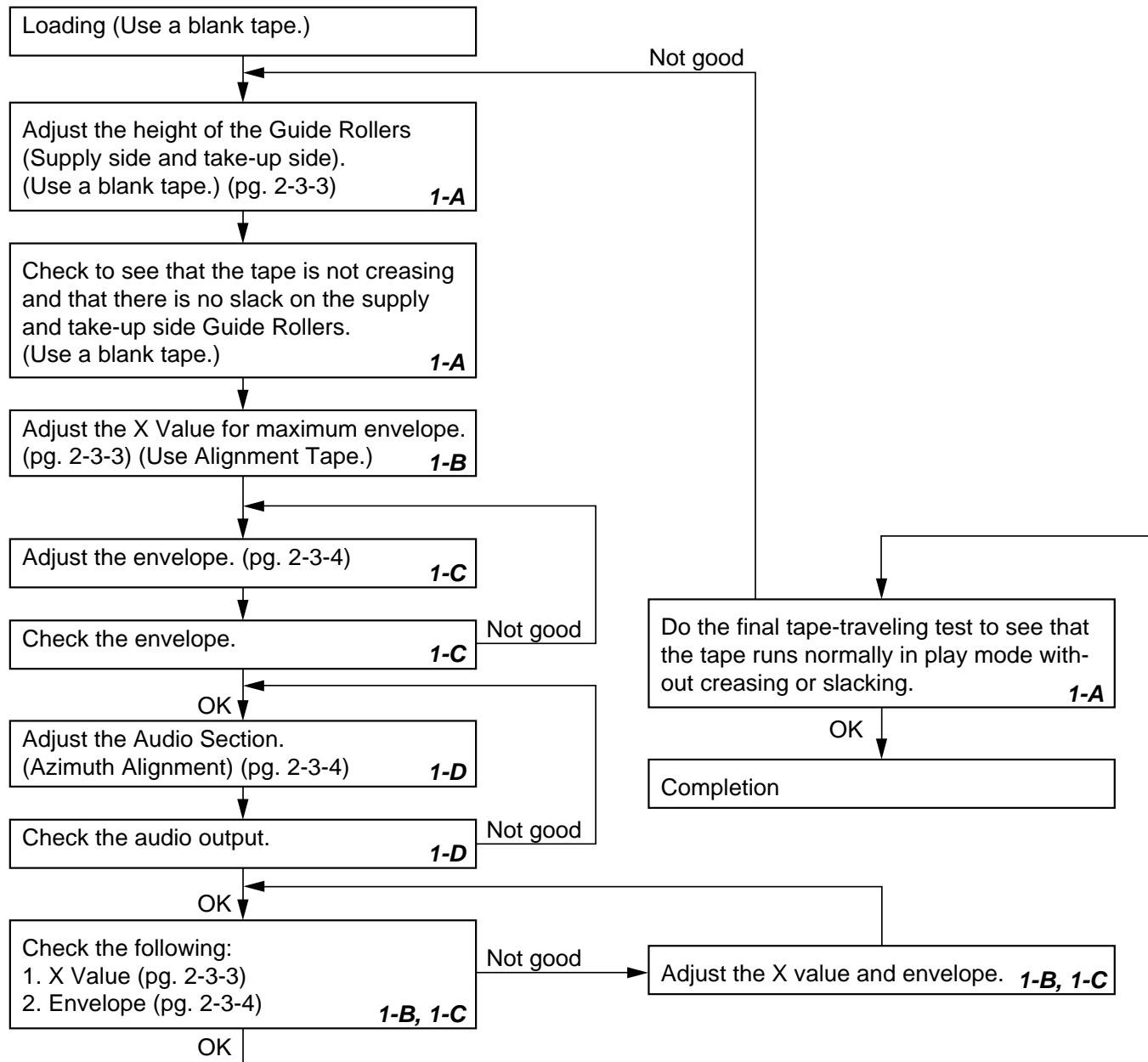
To do these alignment procedures, make sure that the Tracking Control Circuit is set to the center position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

Dual Trace Oscilloscope
VHS Alignment Tape (FL8NW)
Guide Roller Adj. Screwdriver
X-Value Adj. Screwdriver

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling



1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose:

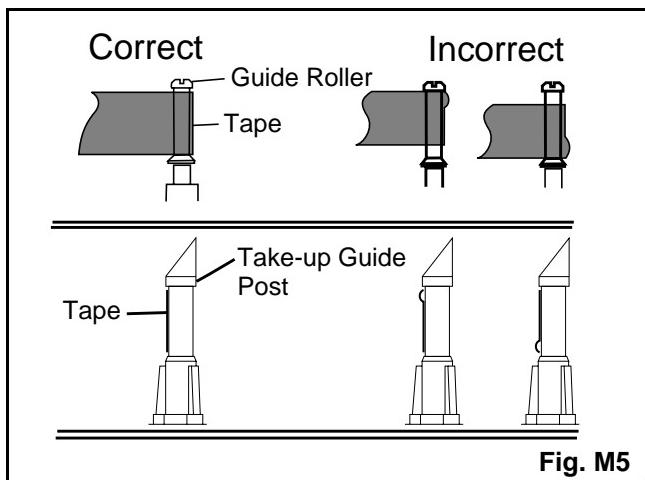
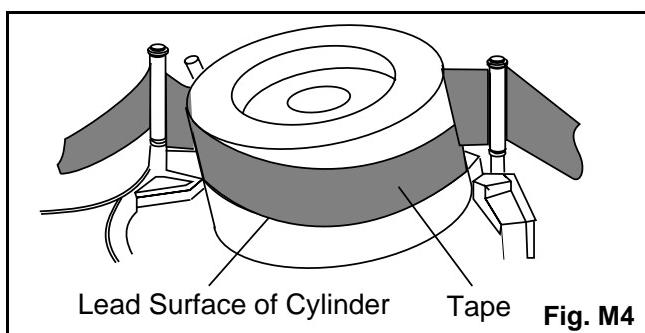
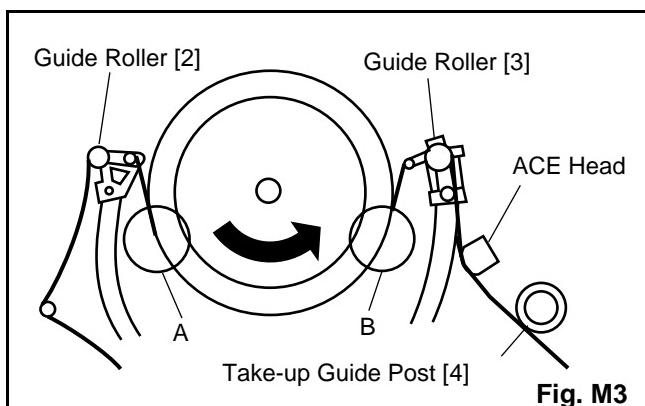
To make sure that the tape path is well stabilized.

Symptom of Misalignment:

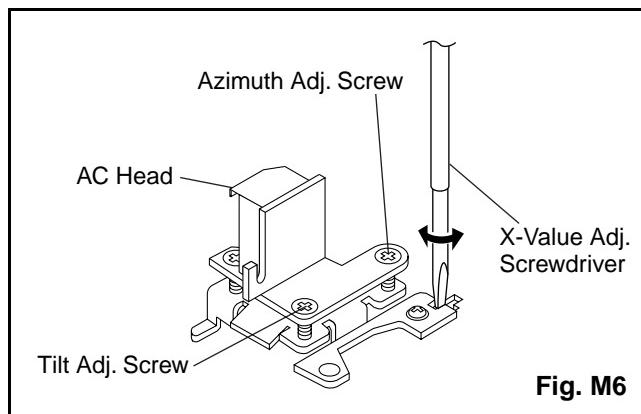
If the tape path is unstable, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Playback a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig. M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)



3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and AC Head. (Fig. M3 and M5)
4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the AC Head. (Fig. M6)



1-B. X Value Alignment

Purpose:

To align the Horizontal Position of the Audio/Control/Erase Head.

Symptom of Misalignment:

If the Horizontal Position of the Audio/Control/Erase Head is not properly aligned, maximum envelope cannot be obtained at the Neutral position of the Tracking Control Circuit.

1. Connect the oscilloscope to TP1403 (HA-MONITOR) and TP1201 (CTL) on the Main CBA. Use TP1401 (RF-SW) as a trigger.
2. Playback the Gray Scale of the Alignment Tape (FL8NW) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the center position by pressing CH UP button then "PLAY" button on the unit. (Refer to note on bottom of page 2-3-4.)
4. Use the X-Value Adj. Screwdriver so that the PB FM signal at TP1403 (HA-MONITOR) is maximum. (Fig. M6)
5. Press CH UP button on the unit until the CTL waveform has shifted by approx. +2msec. Make sure that the envelope is simply attenuated (shrinks in height) during this process so that you will know the envelope has been at its peak.

6. Press CH DOWN button on the unit until the CTL waveform has shifted from its original position (not the position achieved in step 5, but the position of CTL waveform in step 4) by approximately -2msec. Make sure that the envelope is simply attenuated (shrinks in height) once CTL waveform passes its original position and is further brought in the minus direction.
7. Set the Tracking Control Circuit to the center position by pressing CH UP button and then " PLAY " button.

1-C. Checking/Adjustment of Envelope Waveform

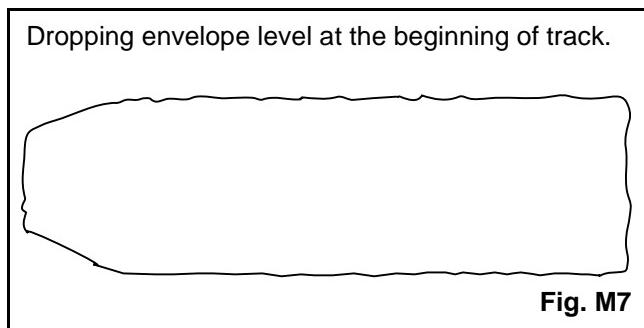
Purpose:

To achieve a satisfactory picture and precise tracking.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

1. Connect the oscilloscope to TP1403 (HA-MONITOR) on the Main CBA. Use TP1401 (RF-SW) as a trigger.
2. Playback the Gray Scale on the Alignment Tape (FL8NW). Set the Tracking Control Circuit to the center position by pressing CH UP button and then " PLAY " button on the unit. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
3. If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
4. If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
5. When Guide Rollers [2] and [3] (Refer to Fig. M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M9.



Dropping envelope level at the end of track.

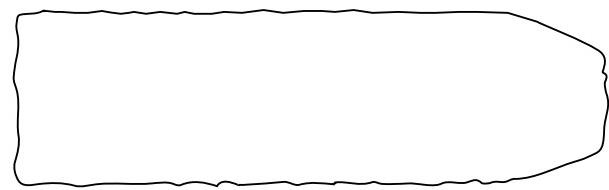


Fig. M8

Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the CH UP or DOWN buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure center position. The number of pushes CH UP button to achieve 1/2 level of envelope should match the number of pushes CH DOWN button from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/Erase Head

Purpose:

To correct the Azimuth alignment so that the Audio/Control/Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Playback the alignment tape (FL8NW) and confirm that the audio signal output level is 8kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS on page 1-7-1.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [41] and [42] in Fig.DM1 on page 2-4-3. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START- ING No.	PART	REMOVAL		INSTALLATION ADJUSTMENT CONDITION
			Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	
[1]	[1]	Guide Holder A	T	DM3	2(S-1)
[2]	[1]	Cassette Holder Assembly	T	DM4	
[3]	[2]	Slider (SP)	T	DM5	*(L-1), (S-1A)
[4]	[2]	Slider (TU)	T	DM5	*(L-2)
[5]	[4]	Lock Lever	T	DM5	*(L-3), *(P-1)
[6]	[2]	Cassette Plate	T	DM5	
[7]	[7]	Cylinder Assembly	T	DM1,DM6	Desolder, 3(S-2)
[8]	[8]	Loading Motor Assembly	T	DM1,DM7	Desolder, LDG Belt, 2(S-3)
[9]	[9]	AC Head Assembly	T	DM1,DM7	(S-4)
[10]	[2]	Tape Guide Arm Assembly	T	DM1,DM8	*(P-2)
[11]	[10]	C Door Opener	T	DM1,DM8	*(L-4)
[12]	[11]	Pinch Arm (B)	T	DM1,DM8	*(P-3)
[13]	[12]	Pinch Arm Assembly	T	DM1,DM8	
[14]	[14]	FE Head Assembly	T	DM1,DM9	(S-5)
[15]	[15]	Prism	T	DM1,DM9	(S-6)
[16]	[2],[15]	Sensor Gear	T	DM1,DM15	
[17]	[2]	Slider Shaft	T	DM10	*(L-5)
[18]	[17]	C Drive Lever (SP)	T	DM10	
[19]	[17]	C Drive Lever (TU)	T	DM10	(S-7),*(P-4)
[20]	[7],[8], [10]	Capstan Motor	B	DM2,DM11	3(S-8), Cap Belt
[21]	[21]	Clutch Assembly	B	DM2,DM12	(C-1)
[22]	[22]	Cam Holder(F) Assembly	B	DM2,DM12	*(L-6)
[23]	[23]	Cam Gear (B)	B	DM2,DM12	(C-4), *(P-5)
[24]	[24]	Mode Gear	B	DM2,DM13	(C-2)
[25]	[21],[23], [24]	Mode Lever	B	DM2,DM13	(C-3), *(L-8)
[26]	[22]	Worm Holder	B	DM2,DM13	(S-9),*(L-9),*(L-10)
[27]	[26]	Pulley Assembly	B	DM2,DM13	
[28]	[25],[26]	Cam Gear (A)	B	DM2,DM13	
[29]	[25]	Idler Gear	B	DM1,DM14	
[30]	[29]	Idler Arm	B	DM1,DM14	*(L-11)
[31]	[25]	BT Arm	B	DM2,DM14	*(P-6)
[32]	[25]	Loading Arm (SP) Assembly	B	DM2,DM14	(+)Refer to Alignment Sec.Pg.2-4-9

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION ADJUSTMENT CONDITION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	
[33]	[32]	Loading Arm (TU) Assembly	B	DM2,DM14		(+)Refer to Alignment Sec.Pg.2-4-9
[34]	[2],[25]	M Brake (TU) Assembly	T	DM1,DM15	*(P-7), Brake Belt	
[35]	[2],[25]	M Brake (SP) Assembly	T	DM1,DM15	*(P-8)	
[36]	[35]	Tension Lever Assembly	T	DM1,DM15		
[37]	[36]	T Lever Holder	T	DM15	*(L-12)	
[38]	[34]	Reel (TU)(D2)	T	DM1,DM15		
[39]	[38]	M Gear	T	DM1,DM15		
[40]	[36]	Reel (SP)(D2)	T	DM1,DM15		
[41]	[32],[36]	Moving Guide S Preparation	T	DM1,DM16		
[42]	[33]	Moving Guide T Preparation	T	DM1,DM16		
[43]	[19]	TG Post Assembly	T	DM1,DM16	*(L-13)	
[44]	[28]	Rack Assembly	R	DM17		(+)Refer to Alignment Sec.Pg.2-4-9
[45]	[44]	F Door Opener	R	DM17	*(P-9)	
[46]	[46]	Cleaner Assembly	T	DM1,DM6		
[47]	[46]	CL Post	T	DM6	*(L-14)	

↓ ↓ ↓ ↓ ↓ ↓ ↓
(1) (2) (3) (4) (5) (6) (7)

(1): Follow steps in sequence. When reassembling, follow the steps in reverse order.

These numbers are also used as identification (location) No. of parts in the figures.

(2): Indicates the part to start disassembling with in order to disassemble the part in column (1).

(3): Name of the part

(4): Location of the part: T=Top B=Bottom R=Right L=Left

(5): Figure Number

(6): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder

e.g., 2(L-2) = two Locking Tabs (L-2).

(7): Adjustment Information for Installation

(+):Refer to Deck Exploded Views for lubrication.

Top View

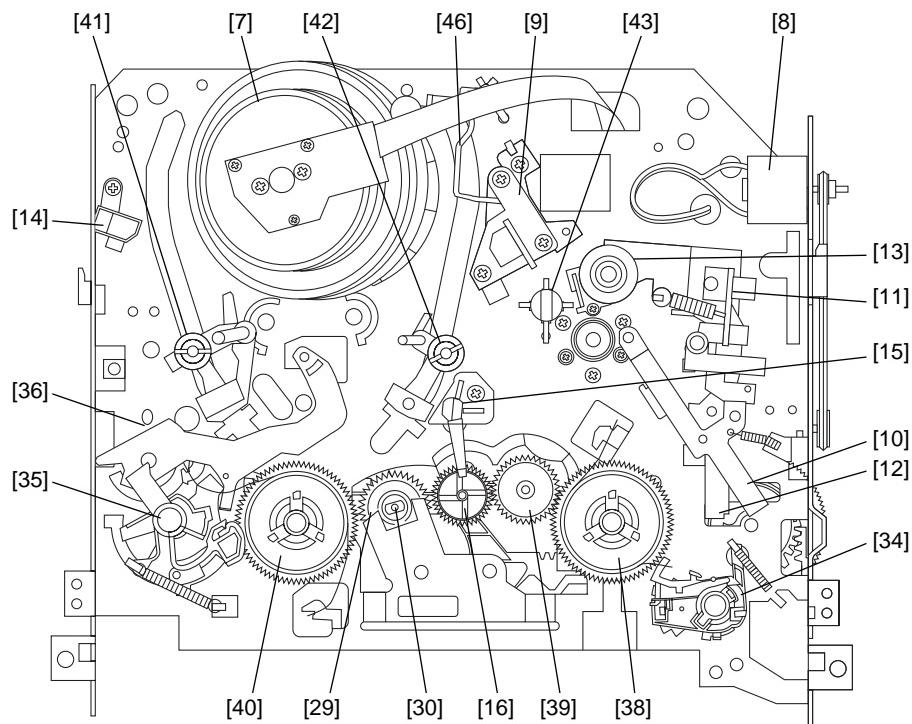


Fig. DM1

Bottom View

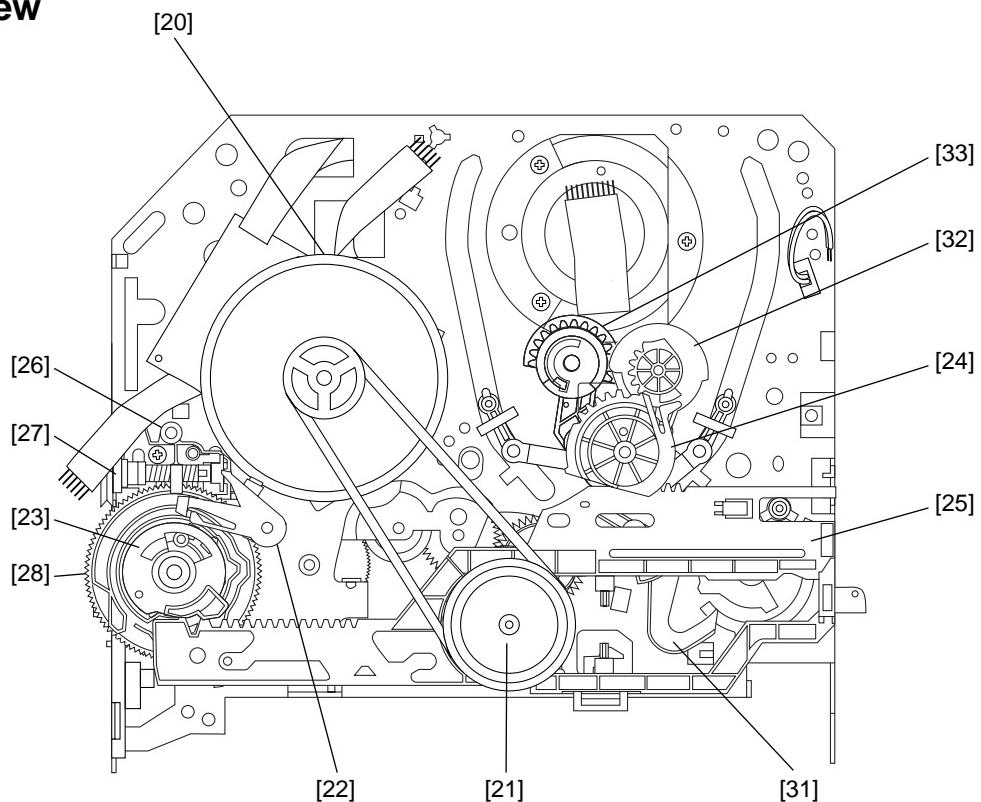


Fig. DM2

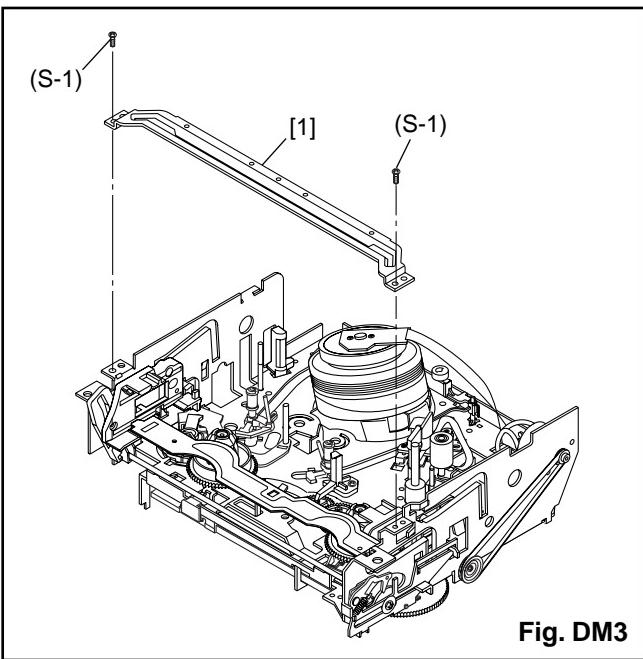


Fig. DM3

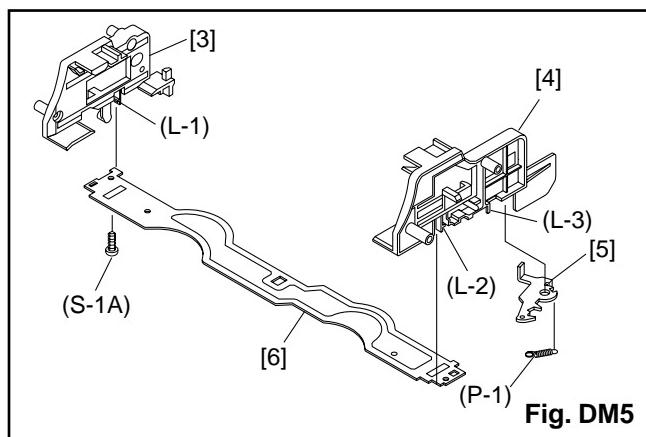
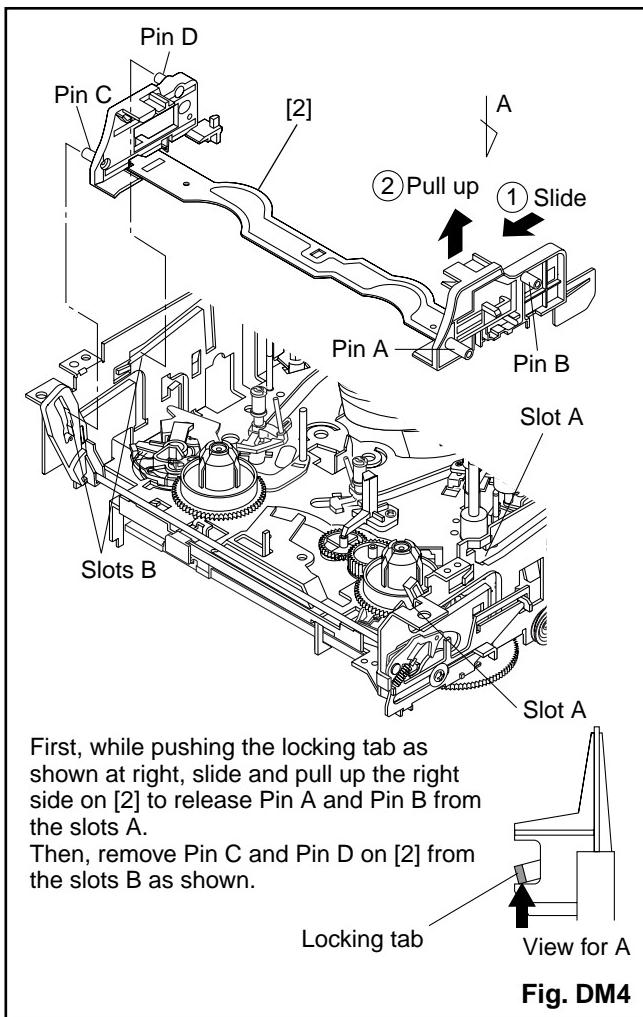


Fig. DM5



First, while pushing the locking tab as shown at right, slide and pull up the right side on [2] to release Pin A and Pin B from the slots A.

Then, remove Pin C and Pin D on [2] from the slots B as shown.

View for A

Fig. DM4

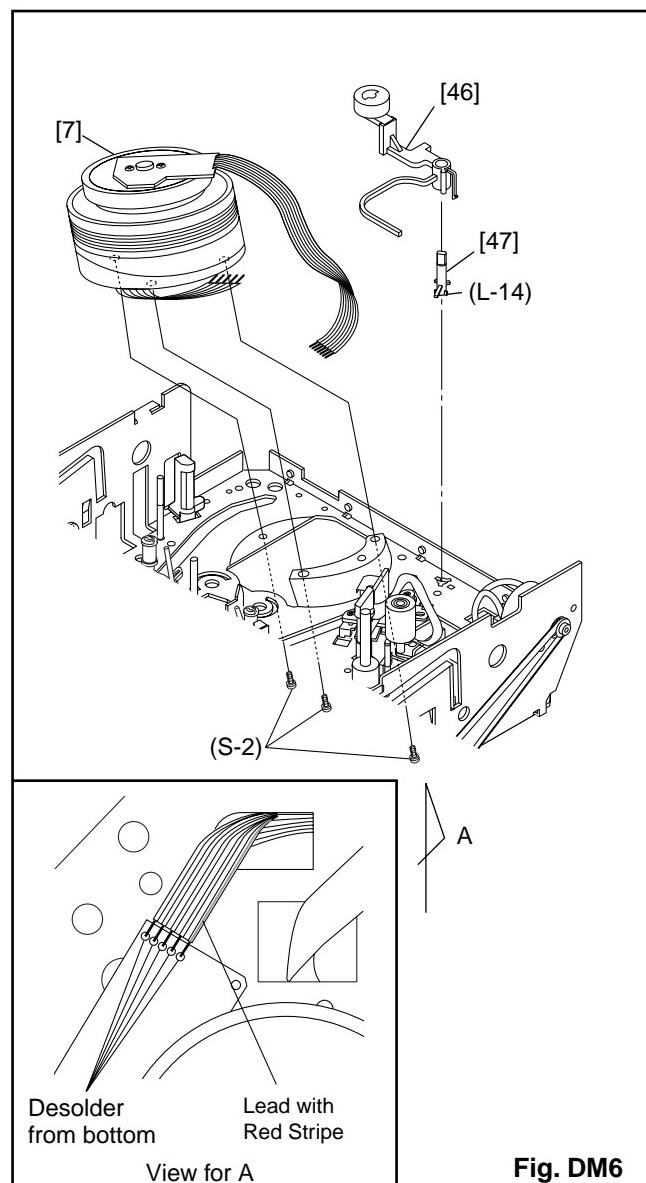
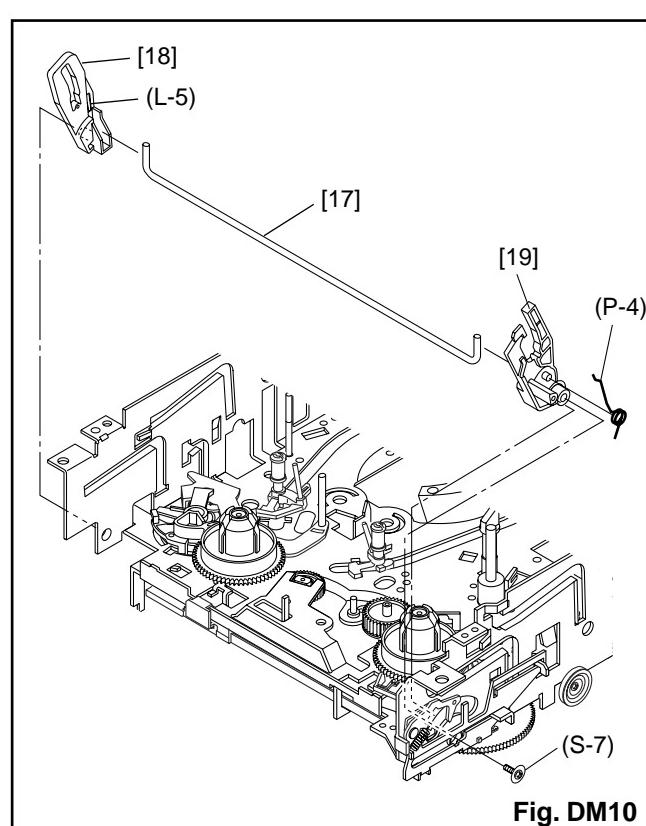
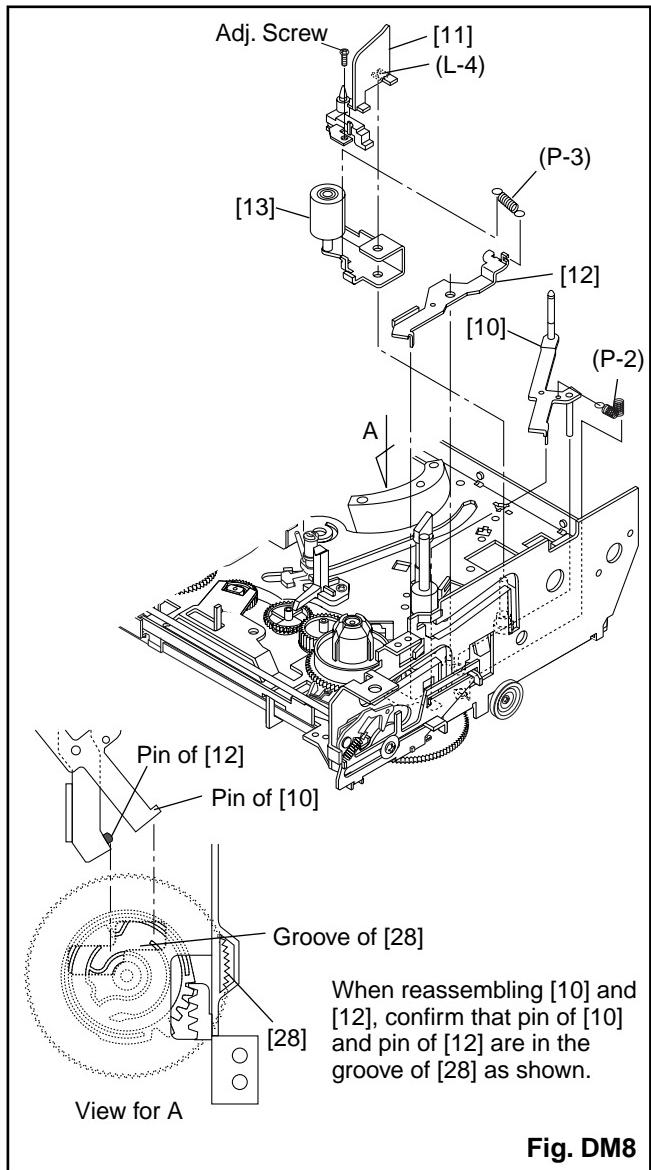
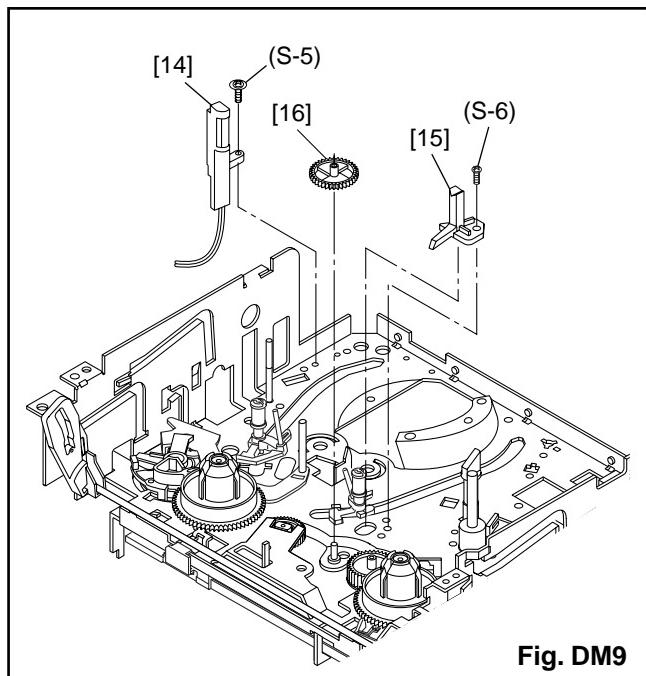
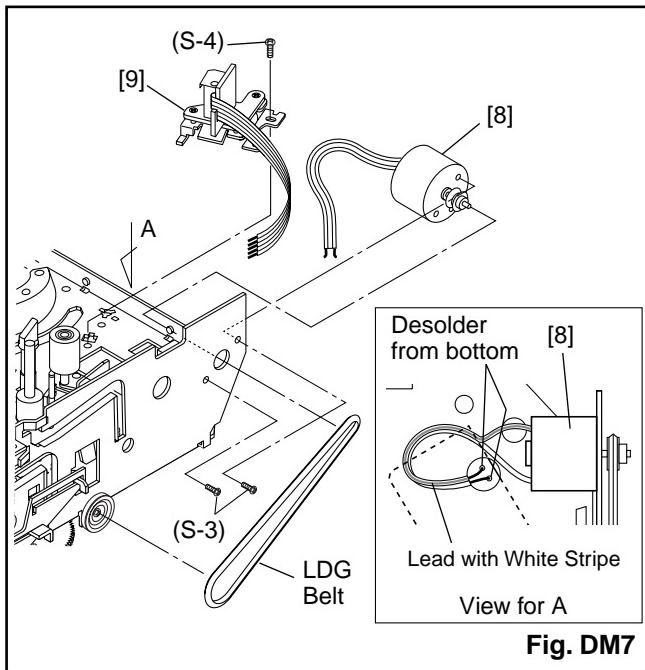
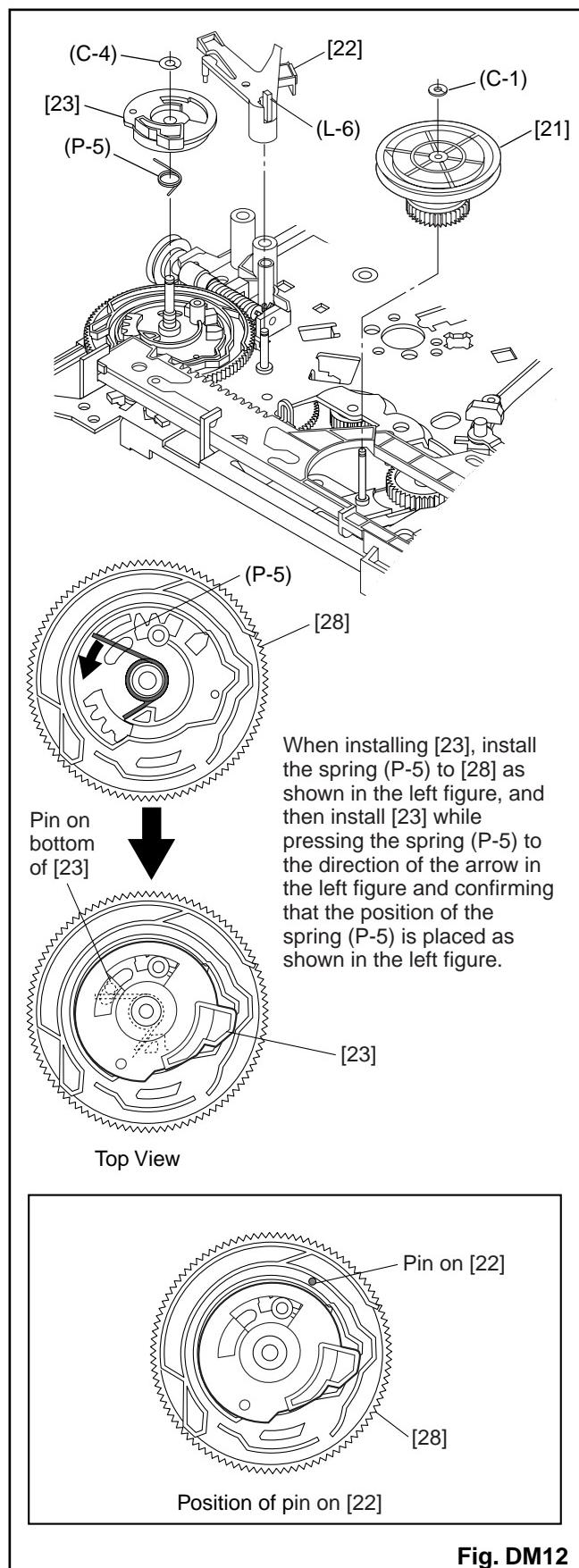
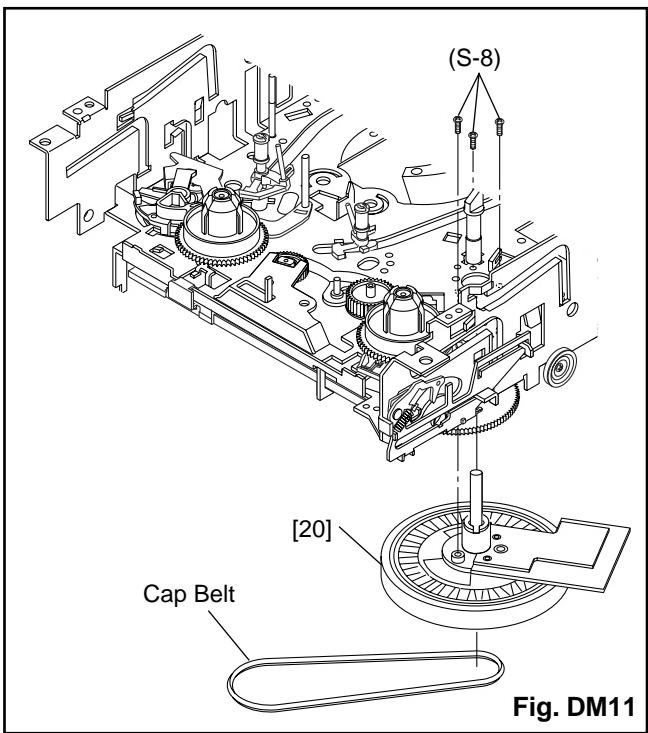


Fig. DM6





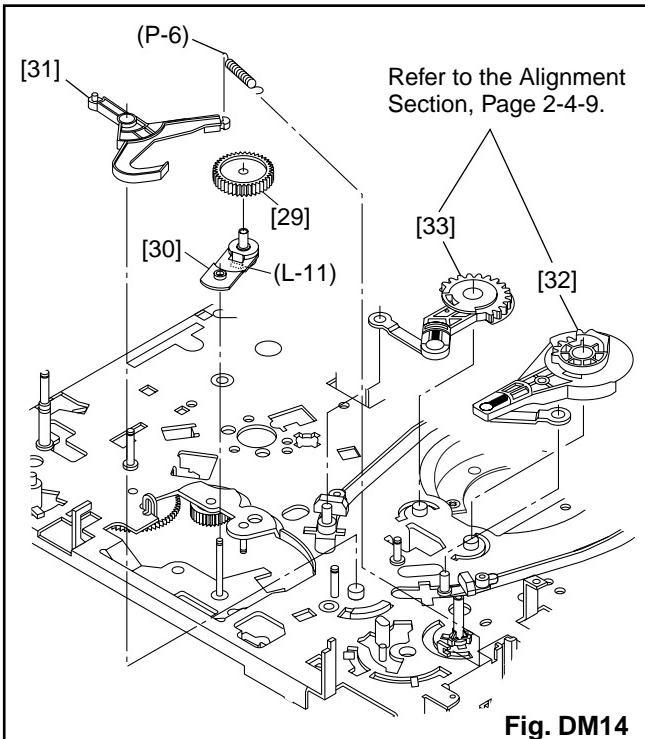
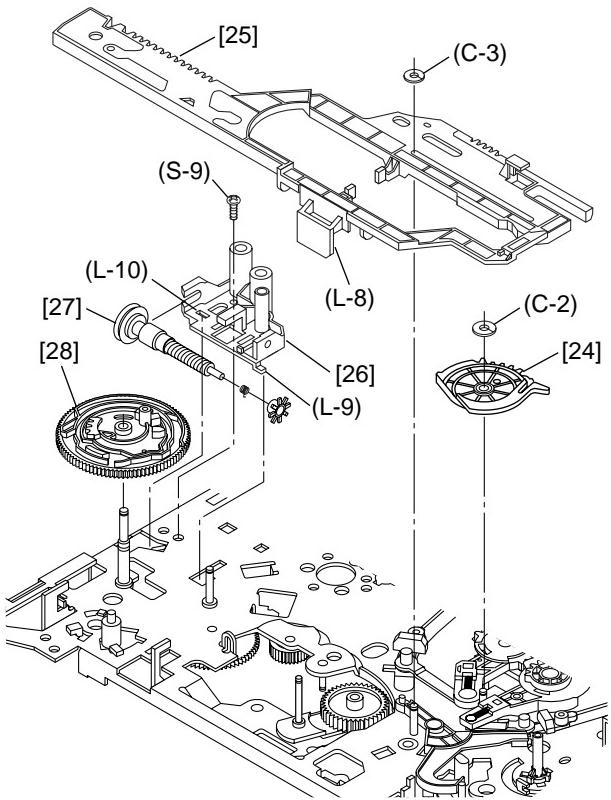


Fig. DM14

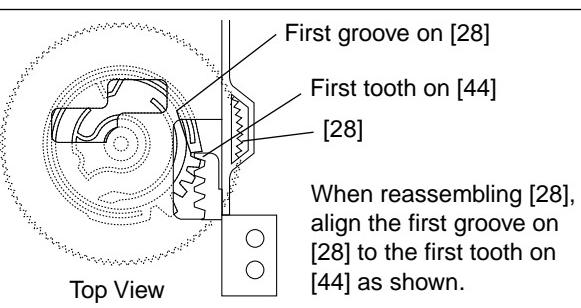
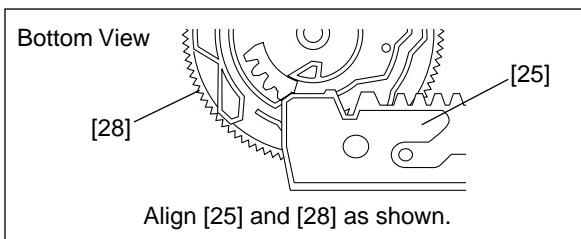
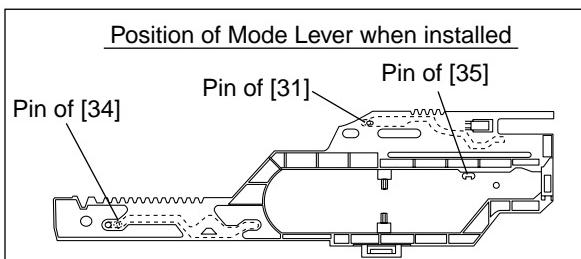


Fig. DM13

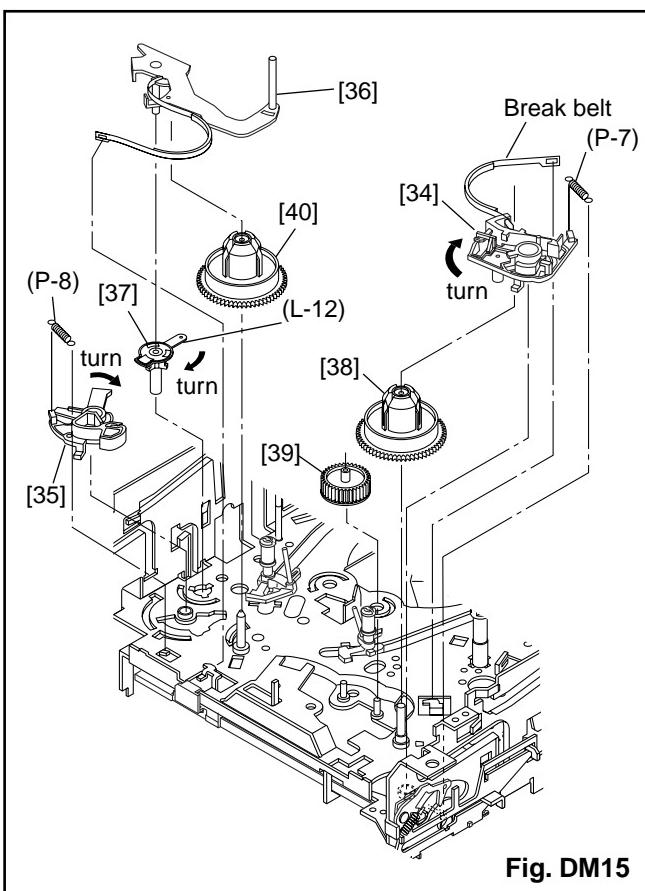


Fig. DM15

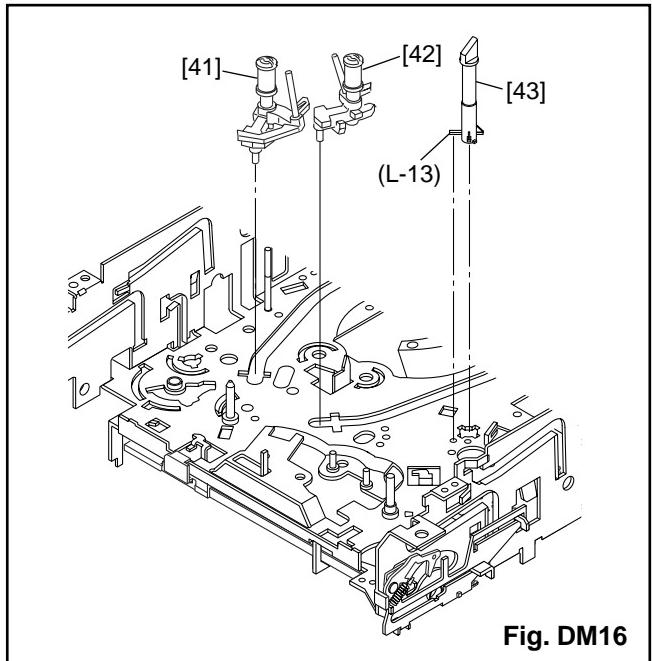


Fig. DM16

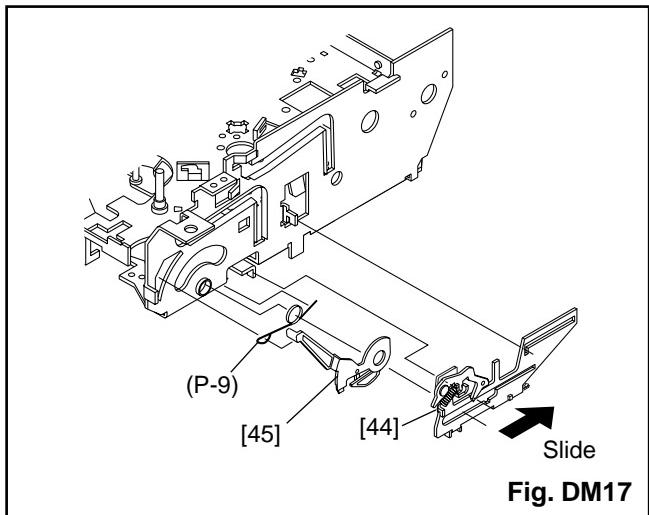


Fig. DM17

ALIGNMENT PROCEDURES OF MECHANISM

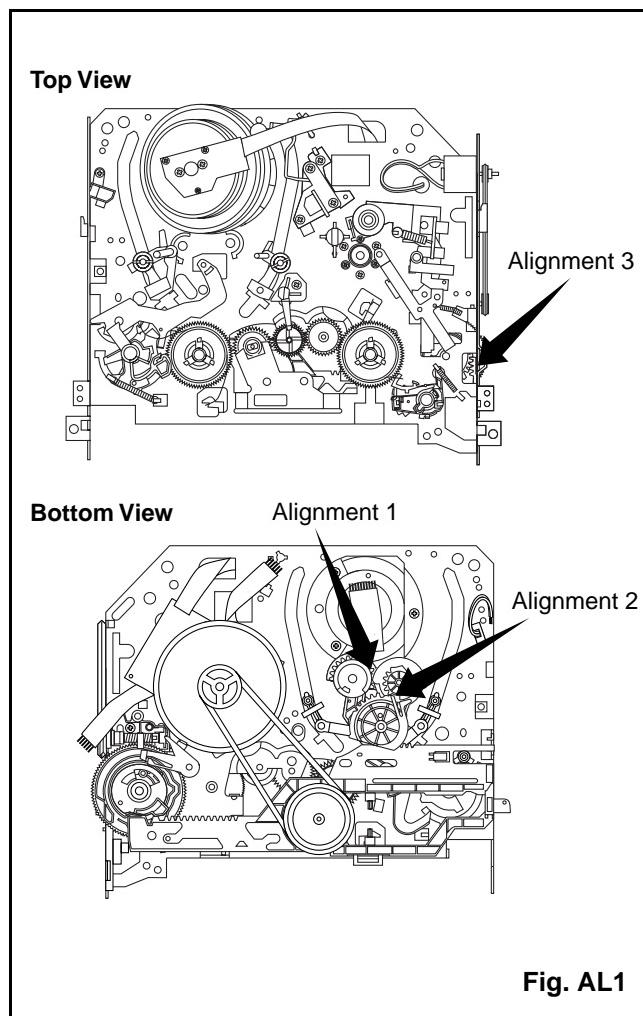
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position



Alignment 1

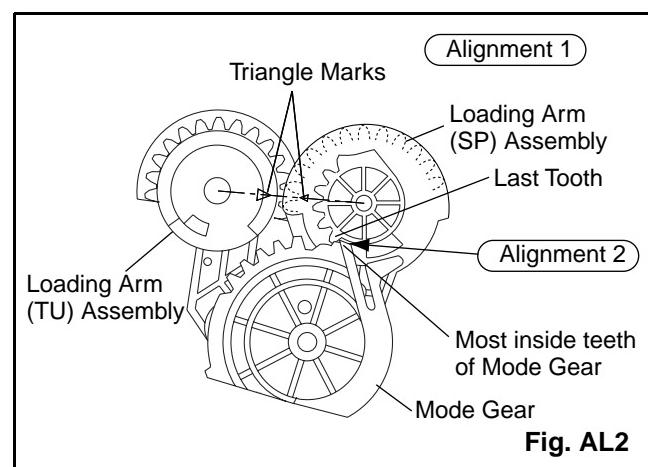
Loading Arm (SP) and (TU) Assembly

Install Loading Arm (SP) and (TU) Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Mode Gear

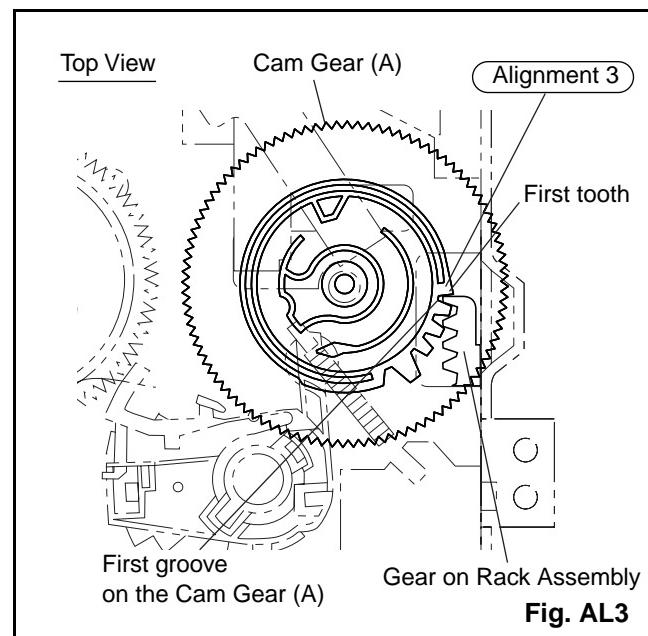
Keeping the two triangles pointing at each other, install the Loading Arm (SP) Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.



Alignment 3

Cam Gear (A), Rack Assembly

Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) as shown in Fig. AL3.



EXPLODED VIEWS AND PARTS LIST SECTION

20" COLOR TV/DVD/VCR

6720FDD

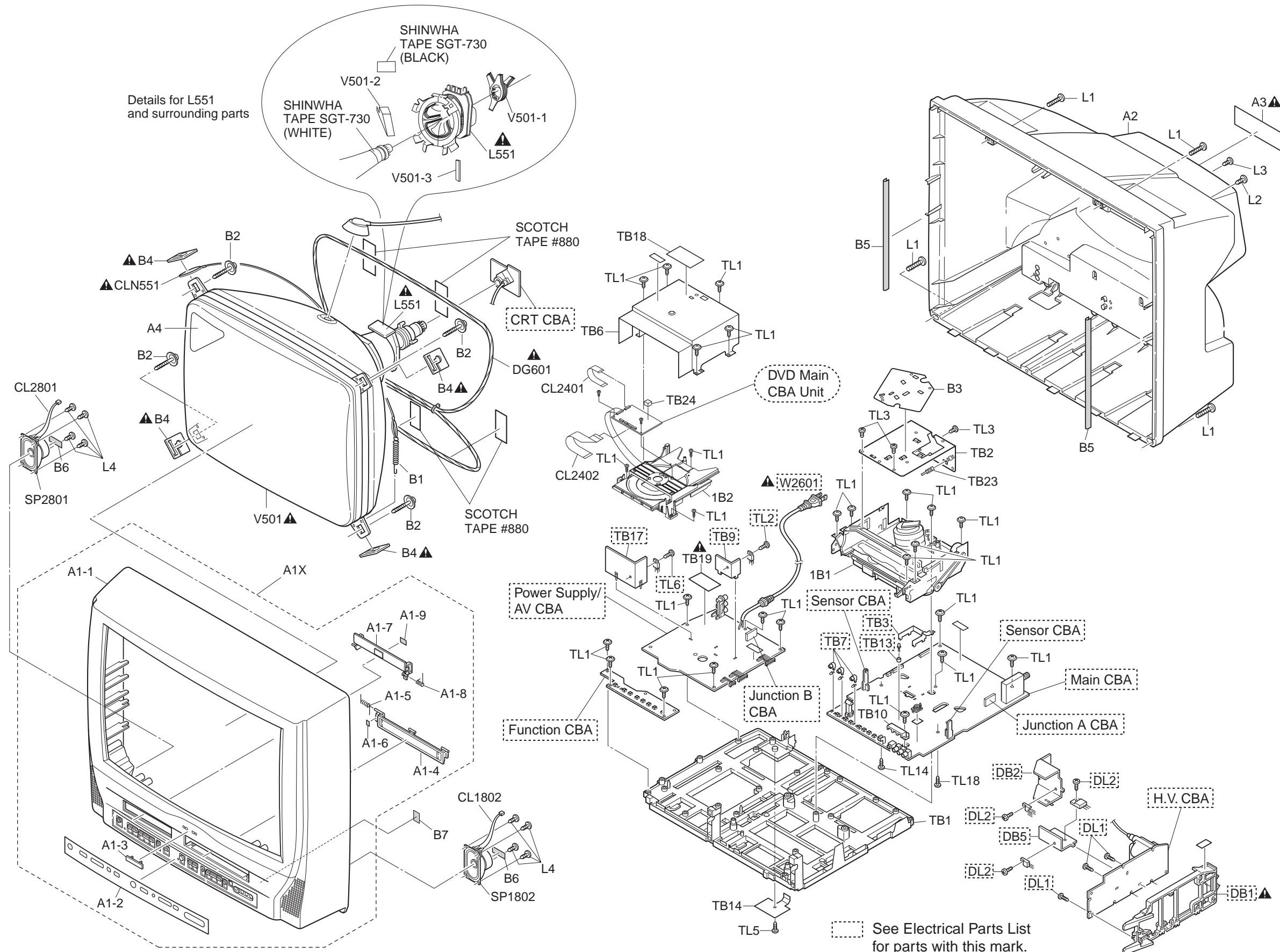
**Sec. 3: Exploded views
and Parts List Section**
● Exploded views
● Parts List

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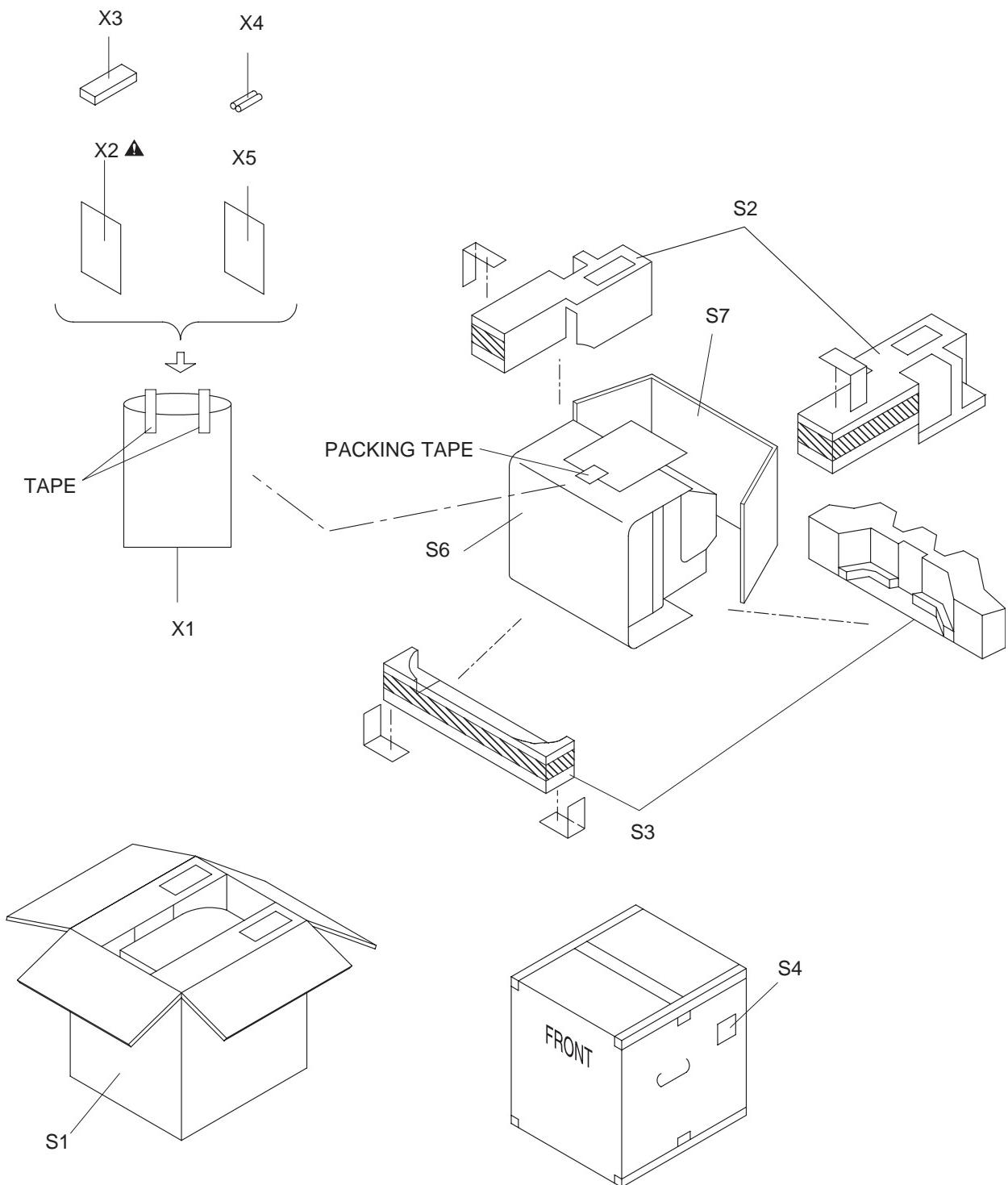
Cabinet Exploded Views	3-1-1
Packing Exploded Views	3-1-3
Deck Mechanism Exploded Views.....	3-1-4
Mechanical Parts List.....	3-2-1
Electrical Parts List	3-3-1
Deck Parts List.....	3-4-1

EXPLODED VIEWS

Cabinet

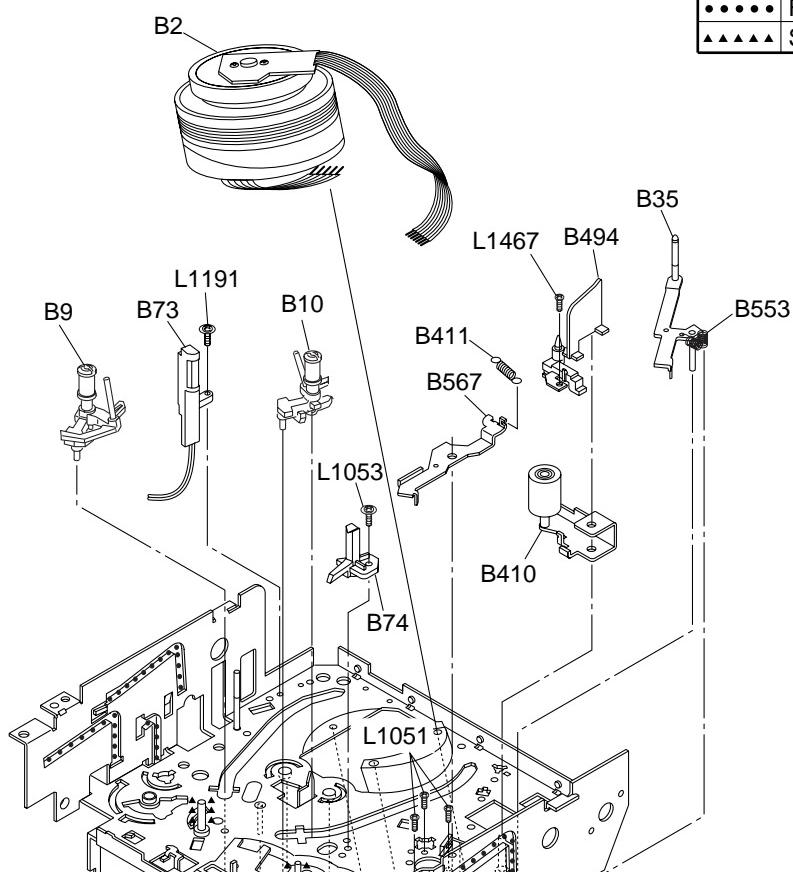


Packing

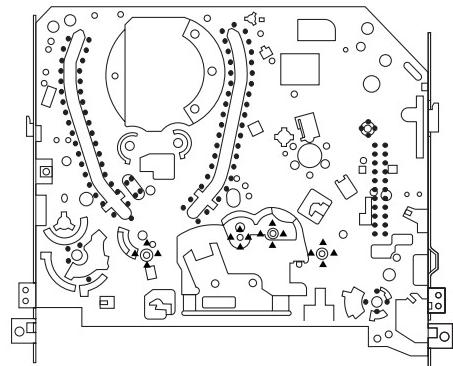


DECK EXPLODED VIEWS

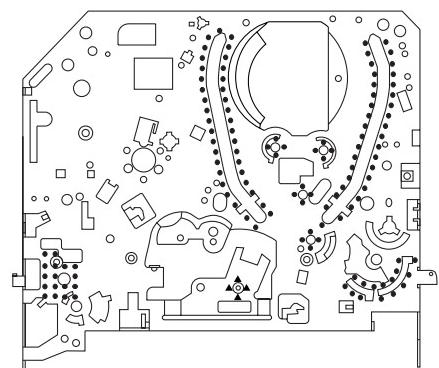
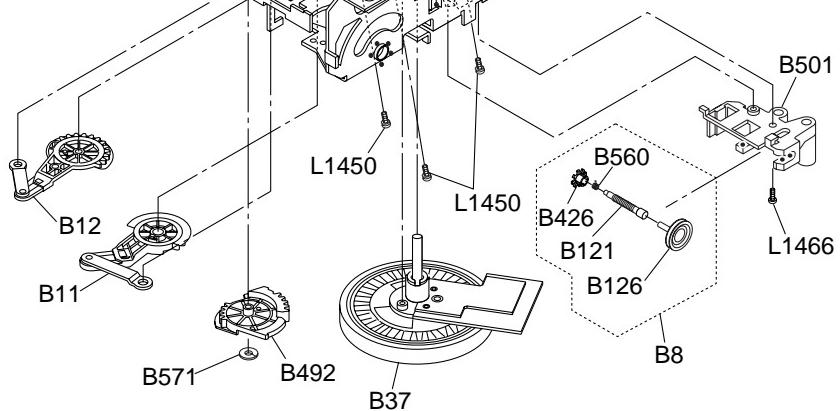
Deck Mechanism View 1



Mark	Description
•••••	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲	SLIDUS OIL #150



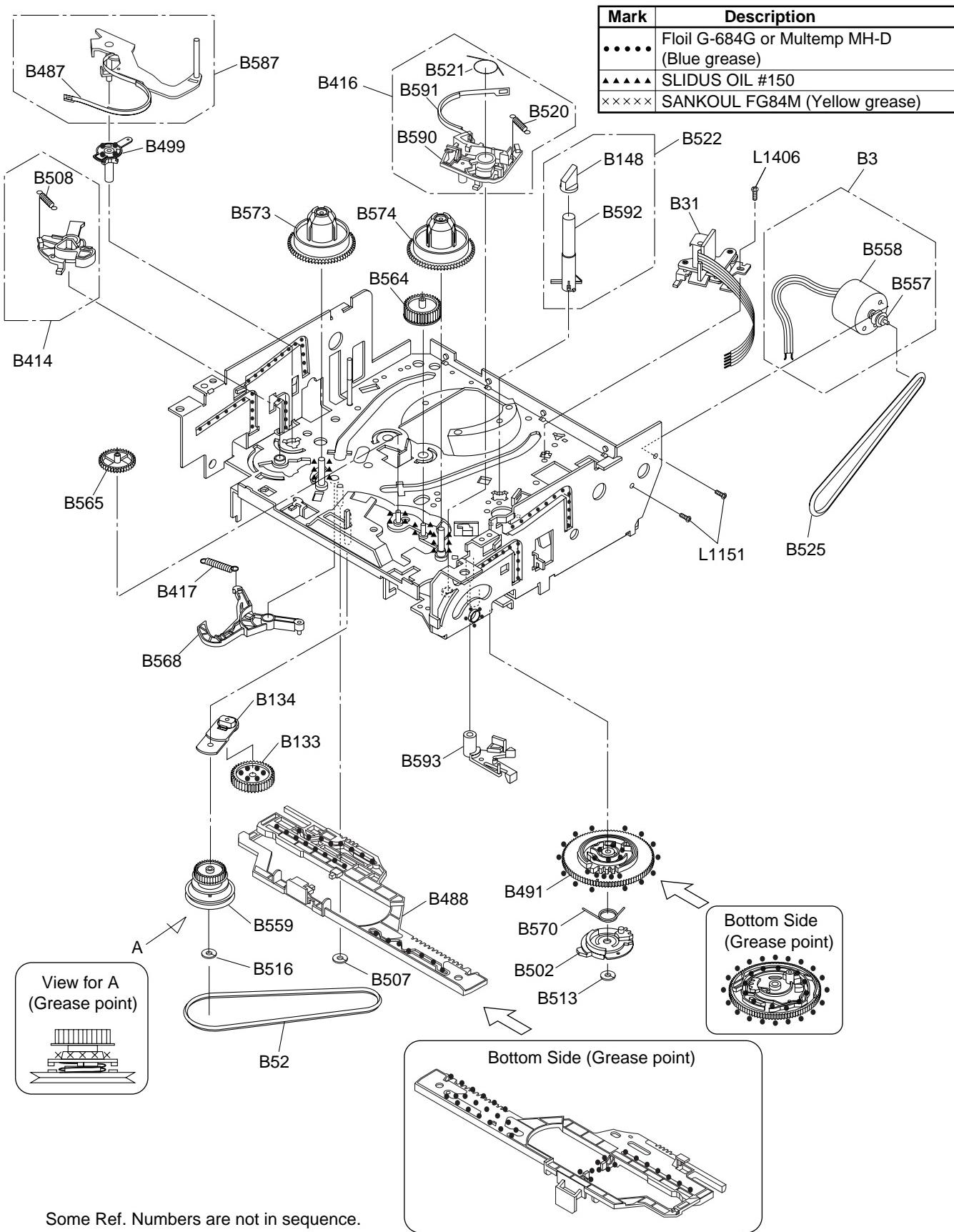
Chassis Assembly
Top View (Lubricating Point)



Chassis Assembly
Bottom View (Lubricating Point)

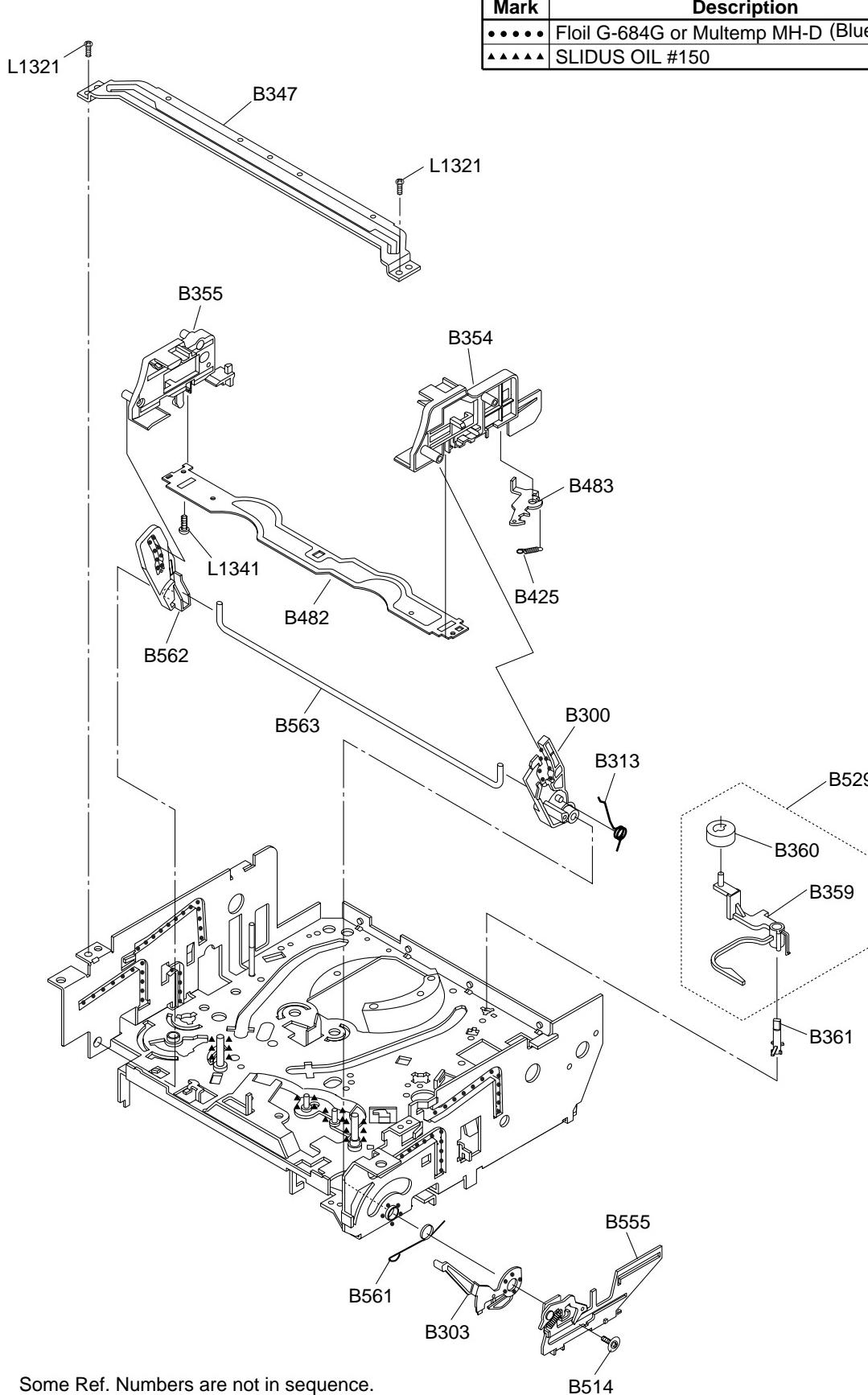
Some Ref. Numbers are not in sequence.

Deck Mechanism View 2



Some Ref. Numbers are not in sequence.

Deck Mechanism View 3



Some Ref. Numbers are not in sequence.

Mark	Description
•••••	Foil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲	SLIDUS OIL #150

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a **▲** have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE:

Parts that are not assigned part numbers (-----) are not available.

Ref. No.	Description	Part No.
A1X	FRONT CABINET ASSEMBLY TD900UA	OEM101380
A1-1	FRONT CABINET TD900UA	OEM101381
A1-2	CONTROL PLATE TD900UA	OEM201777
A1-3	BRAND BADGE L TD951UBSYLVANIA	OEM408107
A1-4	CASSETTE DOOR TD900UA	OEM408491
A1-5	DOOR SPRING B5000UA or DOOR SPRING(Z10) T5200UA	OVM403773 OEM406687
A1-6	CLOTH(4X7XT0.7) T5000UA	OEM404974
A1-7	TRAY PANEL TD930JA	OEM301939
A1-8	TRAY SPRING TD250UA	OEM406504
A1-9	CLOTH(B) L5201U0:15X10X1.0T	OEM400076
A2	REAR CABINET TD900UA	OEM101382
A3▲	RATING LABEL TD900UA	-----
A4	POP LABEL TD900UA	-----
1B1	DECK ASSEMBLY CZD012/VM1666	N1666FT
1B2	DVD MECHA 0838 VCDVM040	N79F0GVM
B1	TENSION SPRING B0080B0:EM40808	26WH006
B2	SCREW L1500UA	OEM406142
B3	SHIELD PLATE (X3) TD500UA	OEM407358
B4▲	DEGAUSS HOLDER L9800UA	OEM404845
B5	CLOTH 190X15XT0.5	TS7623
B6	CLOTH(10X30XT0.5) B5900UA	OEM404486
B7	CLOTH(15X10XT0.5) L9700UA	OEM405038
CL1802	WIRE ASSEMBLY SPEAKER WIRE(180MM)	WX1L9800-001
CL2401	FFC WIRE FFC12P	WX1TD800-003
CL2402	FFC WIRE FFC22P	WX1TD951-001
CL2801	WIRE ASSEMBLY SPEAKER WIRE(180MM)	WX1L9800-001
CLN551▲	CRT WIRE WX1T7180-005	WX1T7180-005
DG601▲	DEGAUSSING COIL AVDG187 or ▲ DEGAUSSING COIL F-053	LLBH00ZWR053 LLBH00ZTM053
L1	SCREW, P-TIGHT 4X18 BIND HEAD +	GBMP4180
L2	SCREW TAPPING M4X14	DBU14140
L3	SCREW, P-TIGHT 3X10 BIND HEAD+	GBK3100
L4	SCREW, P-TIGHT 3X10 BIND HEAD+	GBMP3100
SP1802	SPEAKER S0407F01A	DSD0807XQ001
SP2801	SPEAKER S0407F01A	DSD0807XQ001
TB1	TRAY CHASSIS TD851UB	OEM000766
TB2	TOP SHIELD T5400UA	OEM201663
TB6	SHIELD BOX(X4) TD801UB	OEM101275
TB10	RCA HOLDER TD851UB	OEM408041
TB14	TRAY COVER TD250UA	OEM406459
TB18	LABEL, LASER CAUTION (C) TD100UA	-----
TB23	WIRE HOLDER TD851UB	OEM408118
TB24	LODER CUSHION TD951UB	OEM408203
TL1	SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120

Ref. No.	Description	Part No.
TL3	SCREW, S-TIGHT 3X4 BIND HEAD+	GBMS3040
TL5	P-TIGHT SCREW 3X8 BIND +	GBMP3080
TL14	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
TL18	SCREW, P-TIGHT M3X8 BIND HEAD+	GBCP3080
L551▲	DEFLECTION YOKE KDY3NWG22X	LLBY00ZMS030
V501▲	CRT A51LYZ093X	TCRT190MS014
V501-1	C.P.MAGNET JH225-014 or CPM E-225-F01	XMO4000BV009 XMO4000ETC01
V501-2	WEDGE FT-00110W	XV10000T4001
V501-3	RUBBER MAGNET 20X10X1.2	XMO5000BV001

PACKING

S1	CARTON TD900UA	0EM408495
S2	STYROFOAM TOP ASSEMBLY TD930JA	0EM408416
S3	STYROFOAM BOTTOM ASSEMBLY TD930JA	0EM408417
S4	SERIAL NO. LABEL TD900UA	-----
S6	SET SHEET B7500UA:1000X1700	0EM402178
S7	HOLD PAD TD930JA	0EM408681
ACCESSORIES		
X1	POLYETHYLENE BAG 235X365XT0.03	0EM408420
X2▲	OWNER'S MANUAL TD900UA	0EMN02252
X3	REMOTE CONTROL 189/ERC001/NE209UD	NE209UD
X4	DRY BATTERY R6P UM3 or DRY BATTERY R6P(AR)2PX or DRY BATTERY R6P(AR)2P X ICI or DRY BATTERY(SUNRISE) R6SSE/2S or DRY BATTERY R6P/2S	XB0M451GH001 XB0M451HU002 XB0M451HU003 XB0M451MS002 XB0M451T0001
X5	RETURN STOP SHEET L6101UB	0EM407077

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a **▲** have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (-----) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J.....±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

DVD MAIN CBA UNIT

Ref. No.	Description	Part No.
	DVD MAIN CBA UNIT	N79T0GUP

MMA CBA

Ref. No.	Description	Part No.
	MMA CBA Consists of the following	0ESA05668
	MAIN CBA SENSOR CBA	----- 0ESA04524

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following	-----
CAPACITORS		
C1002	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMSDL1R0
	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMSDL010
	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTL1R0
C1003	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1005	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C1006	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1007	PCB JUMPER D0.6-P5.0	JW5.0T
C1008	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMSDL1R0
	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMSDL010
	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTL1R0
C1009	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C1010	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1011	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C1012	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C1207	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C1208	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1209	CERAMIC CAP.(AX) Y N 0.022μF/6V	CCA0KNT0Y223
C1210	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0

Ref. No.	Description	Part No.
C1211	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1212	CERAMIC CAP.(AX) CH J 20pF/50V	CCA1JJTCH200
C1213	CERAMIC CAP.(AX) CH J 20pF/50V	CCA1JJTCH200
C1214	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1216	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1217	CERAMIC CAP.(AX) CH J 10pF/50V	CCA1JJTCH100
C1218	CERAMIC CAP.(AX) CH J 15pF/50V	CCA1JJTCH150
C1219	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1220	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1221	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1222	CERAMIC CAP.(AX) X M 2200pF/16V	CCA1CMT0X222
C1223	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C1224	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1225	CERAMIC CAP.(AX) B K 560pF/50V	CCA1JKT0B561
C1226	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1233	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1235	CERAMIC CAP.(AX) X K 4700pF/16V	CCA1CKT0X472
C1236	CERAMIC CAP.(AX) F Z 0.047μF/16V	CCA1CZTFZ473
C1238	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1239	ELECTROLYTIC CAP. 22μF/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASTL220
C1240	CERAMIC CAP.(AX) B K 560pF/50V	CCA1JKT0B561
C1241	CERAMIC CAP.(AX) X K 4700pF/16V	CCA1CKT0X472
C1243	ELECTROLYTIC CAP. 22μF/16V M LL or	CE1CMASLL220
	ELECTROLYTIC CAP. 22μF/16V M LL	CE1CMASLH220
C1244	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1245	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C1246	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1247	ELECTROLYTIC CAP. 22μF/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASTL220
C1252	ELECTROLYTIC CAP. 100μF/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASTL101
C1253	ELECTROLYTIC CAP. 100μF/10V M or	CE1AMASDL101
	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASTL101
C1254	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C1260	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1301	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1309	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTL1R0
C1311	ELECTROLYTIC CAP. 470μF/10V M or	CE1AMASDL471
	ELECTROLYTIC CAP. 470μF/10V M	CE1AMASTL471
C1314	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1316	ELECTROLYTIC CAP. 2.2μF/50V M or	CE1JMASDL2R2
	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASTL2R2
C1317	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1318	ELECTROLYTIC CAP. 100μF/6.3V M or	CE0KMASDL101
	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASTL101
C1319	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1μF/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTL1R0
C1321	ELECTROLYTIC CAP. 330μF/6.3V M or	CE0KMASDL331
	ELECTROLYTIC CAP. 330μF/6.3V M	CE0KMASTL331
C1322	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C1323	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100

Ref. No.	Description	Part No.
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1325	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1327	ELECTROLYTIC CAP. 100 μ F/10V M or	CE1AMASDL101
	ELECTROLYTIC CAP. 100 μ F/10V M	CE1AMASTL101
C1330	CERAMIC CAP.(AX) F Z 0.1 μ F/50V	CCA1JZTFZ104
C1331	ELECTROLYTIC CAP. 220 μ F/10V M or	CE1AMASDL221
	ELECTROLYTIC CAP. 220 μ F/10V M	CE1AMASTL221
C1332	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1333	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1336	TF CAP. 0.47 μ F/50V J or	CT1J474MS045
	FILM CAP. 0.47 μ F/50V J	122Z317S
C1337	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1338	ELECTROLYTIC CAP. 2.2 μ F/50V M or	CE1JMASDL2R2
	ELECTROLYTIC CAP. 2.2 μ F/50V M	CE1JMASTL2R2
C1339	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1342	ELECTROLYTIC CAP. 470 μ F/10V M or	CE1AMASDL471
	ELECTROLYTIC CAP. 470 μ F/10V M	CE1AMASTL471
C1343	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1350	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1394	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1410	ELECTROLYTIC CAP. 1 μ F/50V M H7	CE1JMAVSL1R0
C1411	ELECTROLYTIC CAP. 100 μ F/6.3V H7	CE0KMAVSL101
C1412	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1413	CERAMIC CAP.(AX) B K 390pF/50V	CCA1JKT0B391
C1414	ELECTROLYTIC CAP. 1 μ F/50V M H7	CE1JMAVSL1R0
C1416	CERAMIC CAP.(AX) B K 180pF/50V	CCA1JKT0B181
C1417	CERAMIC CAP.(AX) SL J 22pF/50V	CCA1JJTSL220
C1418	PCB JUMPER D0.6-P5.0	JW5.0T
C1419	ELECTROLYTIC CAP. 0.1 μ F/50V M H7	CE1JMAVSLR10
C1420	ELECTROLYTIC CAP. 22 μ F/16V M H7	CE1CMAVSL220
C1421	ELECTROLYTIC CAP. 4.7 μ F/50V M H7	CE1JMAVSL4R7
C1423	ELECTROLYTIC CAP. 10 μ F/50V M H7	CE1JMAVSL100
C1424	ELECTROLYTIC CAP. 1 μ F/50V M H7	CE1JMAVSL1R0
C1425	ELECTROLYTIC CAP. 1 μ F/50V M H7	CE1JMAVSL1R0
C1426	ELECTROLYTIC CAP. 22 μ F/16V M H7	CE1CMAVSL220
C1427	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1428	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1429	ELECTROLYTIC CAP. 47 μ F/6.3V M H7	CE0KMAVSL470
C1430	CERAMIC CAP.(AX) F Z 0.022 μ F/25V	CCA1EZTFZ223
C1431	ELECTROLYTIC CAP. 1 μ F/50V M H7	CE1JMAVSL1R0
C1434	ELECTROLYTIC CAP. 1 μ F/50V M H7	CE1JMAVSL1R0
C1435	ELECTROLYTIC CAP. 2.2 μ F/50V M H7	CE1JMAVSL2R2
C1436	CERAMIC CAP.(AX) XM 3900pF/16V	CCA1CMT0X392
C1437	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1438	ELECTROLYTIC CAP. 1 μ F/50V M H7	CE1JMAVSL1R0
C1439	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1440	ELECTROLYTIC CAP. 1 μ F/50V M H7	CE1JMAVSL1R0
C1441	ELECTROLYTIC CAP. 1 μ F/50V M H7	CE1JMAVSL1R0
C1442	CERAMIC CAP.(AX) B K 0.047 μ F/50V	CA1J473TU011
C1443	CERAMIC CAP.(AX) B K 0.047 μ F/50V	CA1J473TU011
C1444	ELECTROLYTIC CAP. 22 μ F/16V M H7	CE1CMAVSL220
C1445	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103

Ref. No.	Description	Part No.
C1446	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1447	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1449	CERAMIC CAP.(AX) F Z 0.1 μ F/50V	CCA1JZTFZ104
C1452	CERAMIC CAP.(AX) F Z 0.022 μ F/25V	CCA1EZTFZ223
C1627	ELECTROLYTIC CAP. 22 μ F/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22 μ F/50V M	CE1JMASTL220
C1628	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1629	ELECTROLYTIC CAP. 47 μ F/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47 μ F/25V M	CE1EMASTL470
C1631	ELECTROLYTIC CAP. 220 μ F/16V M or	CE1CMASDL221
	ELECTROLYTIC CAP. 220 μ F/16V M	CE1CMASDL221
C1634	ELECTROLYTIC CAP. 100 μ F/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100 μ F/16V M	CE1CMASDL101
C1635	ELECTROLYTIC CAP. 47 μ F/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47 μ F/25V M	CE1EMASTL470
C1636	CERAMIC CAP.(AX) F Z 0.1 μ F/50V	CCA1JZTFZ104
C1701	ELECTROLYTIC CAP. 47 μ F/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47 μ F/25V M	CE1EMASTL470
C1722	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1732	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
C1747	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1748	CERAMIC CAP.(AX) B K 0.033 μ F/50V	CA1J333TU011
C1749	CERAMIC CAP.(AX) F Z 0.1 μ F/50V	CCA1JZTFZ104
C1751	ELECTROLYTIC CAP. 47 μ F/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47 μ F/25V M	CE1EMASTL470
C1752	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1753	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1754	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1755	ELECTROLYTIC CAP. 22 μ F/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22 μ F/50V M	CE1JMASTL220
C1756	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1757	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1758	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1759	ELECTROLYTIC CAP. 22 μ F/16V M H7	CE1CMASDL220
C1760	CERAMIC CAP.(AX) X K 4700pF/16V	CCA1CKT0X472
C1761	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1762	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1763	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1764	ELECTROLYTIC CAP. 220 μ F/6.3V M or	CE0KMASDL221
	ELECTROLYTIC CAP. 220 μ F/6.3V M	CE0KMASTL221
C1765	CERAMIC CAP.(AX) F Z 0.022 μ F/25V	CCA1EZTFZ223
C1766	ELECTROLYTIC CAP. 2.2 μ F/50V M or	CE1JMASDL2R2
	ELECTROLYTIC CAP. 2.2 μ F/50V M	CE1JMASTL2R2
C1767	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1768	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100

Ref. No.	Description	Part No.
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1769	ELECTROLYTIC CAP. 22 μ F/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22 μ F/50V M	CE1JMASTL220
C1770	CERAMIC CAP.(AX) X K 4700pF/16V	CCA1CKT0X472
C1771	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1772	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1773	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1774	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1775	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1776	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1777	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1778	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1779	ELECTROLYTIC CAP. 2.2 μ F/50V M or	CE1JMASDL2R2
	ELECTROLYTIC CAP. 2.2 μ F/50V M	CE1JMASTL2R2
C1780	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1781	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1782	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1783	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1784	CERAMIC CAP.(AX) F Z 0.1 μ F/50V	CCA1JZTFZ104
C1786	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1787	ELECTROLYTIC CAP. 22 μ F/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22 μ F/50V M	CE1JMASTL220
C1788	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1789	ELECTROLYTIC CAP. 22 μ F/50V M or	CE1JMASDL220
	ELECTROLYTIC CAP. 22 μ F/50V M	CE1JMASTL220
C1790	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1791	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1792	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1793	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1794	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1795	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1797	ELECTROLYTIC CAP. 100 μ F/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100 μ F/16V M	CE1CMASTL101
C1798	ELECTROLYTIC CAP. 100 μ F/6.3V M or	CE0KMASDL101
	ELECTROLYTIC CAP. 100 μ F/6.3V M	CE0KMASTL101
C1800	CERAMIC CAP.(AX) F Z 0.1 μ F/50V	CCA1JZTFZ104
C1802	ELECTROLYTIC CAP. 22 μ F/50V M or	CE1JMASDL220

Ref. No.	Description	Part No.
	ELECTROLYTIC CAP. 22 μ F/50V M	CE1JMASTL220
C1803	PCB JUMPER D0.6-P5.0	JW5.0T
C1804	ELECTROLYTIC CAP. 100 μ F/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100 μ F/16V M	CE1CMASTL101
C1805	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1806	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1 μ F/50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1 μ F/50V M	CE1JMASTL1R0
C1807	CERAMIC CAP.(AX) B K 560pF/50V	CCA1JKT0B561
C1808	CERAMIC CAP.(AX) B K 560pF/50V	CCA1JKT0B561
C1809	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1810	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1812	ELECTROLYTIC CAP. 1000 μ F/16V M or	CE1CMZPDL102
	ELECTROLYTIC CAP. 1000 μ F/16V M(VR/HC)	CE1CMZNTL102
C1814	ELECTROLYTIC CAP. 330 μ F/16V M or	CE1CMASDL331
	ELECTROLYTIC CAP. 330 μ F/16V M	CE1CMASTL331
C1815	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1816	ELECTROLYTIC CAP. 330 μ F/16V M or	CE1CMASDL331
	ELECTROLYTIC CAP. 330 μ F/16V M	CE1CMASTL331
C1823	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1824	ELECTROLYTIC CAP. 10 μ F/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10 μ F/50V M	CE1JMASTL100
C1825	CERAMIC CAP.(AX) F Z 0.022 μ F/25V	CCA1EZTFZ223
C1826	ELECTROLYTIC CAP. 470 μ F/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470 μ F/16V M	CE1CMASTL471
C1854	ELECTROLYTIC CAP. 22 μ F/16V M H7	CE1CMAVSL220
C1856	CERAMIC CAP.(AX) F Z 0.1 μ F/50V	CCA1JZTFZ104
C1857	ELECTROLYTIC CAP. 33 μ F/6.3V M H7	CE0KMAVSL330
C1858	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1859	CERAMIC CAP.(AX) F Z 0.1 μ F/50V	CCA1JZTFZ104
C1860	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1862	CERAMIC CAP.(AX) B K 0.01 μ F/50V	CCA1JKT0B103
C1863	ELECTROLYTIC CAP. 4.7 μ F/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7 μ F/50V M	CE1JMASTL4R7
C1865	CERAMIC CAP.(AX) X K 1200pF/16V	CCA1CKT0X122
C1866	CERAMIC CAP.(AX) X K 2700pF/16V	CCA1CKT0X272
C1872	ELECTROLYTIC CAP.(SS.T) 47 μ F/25V M H7	CA1E470S6028
C1873	ELECTROLYTIC CAP. 100 μ F/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100 μ F/16V M	CE1CMASTL101
C1874	CERAMIC CAP. B K 470pF/100V or	CCD2AKS0B471
	CERAMIC CAP. B K 470pF/500V	CCD2JKS0B471
C1875	FILM CAP.(P) 0.018 μ F/100V J or	CMA2AJS00183
	FILM CAP.(P) 0.018 μ F/50V J	CA1J183MS029
CONNECTORS		
CN1301	CONNECTOR BASE 13P TUC-P13P-B1	J3TUA13TG001
CN1802	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002
	STRAIGHT PIN HEADER, 2P 173981-2	1770258
CN1803	TWG CONNECTOR 19P TWG-P19X	JCTWA19TG001
CN1804	TWG CONNECTOR 19P TWG-P19X	JCTWA19TG001
CN1805	TWG CONNECTOR 07P TWG-P07P-A1	J3TWA07TG001
DIODES		
D1201	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
C1802	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS

Ref. No.	Description	Part No.
D1203	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1204	LED LTL-4214M1 or	NPCZLTL4214M
	LED(RED)L-FORMING LT1814G-81-FL or	NP4ZOLT1814G
	LED L-53HT or	NP4Z000L53HT
	LED LAMP 333HT/F45-50K or	NPWK333HTF45
	LED LAMP 333HT/F45-50L or	NPWL333HTF45
	LED LAMP 333HT/F45-50M	NPWM333HTF45
D1205	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1206	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1207	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1208	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1210	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1213	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1216	LED LAMP 333GT/F45-50 or	NPWZ3GTF4550
	LED(GREEN) LTL-4234M1	NPZ0LT4234
D1217	LED LTL-4214M1 or	NPCZLTL4214M
	LED(RED)L-FORMING LT1814G-81-FL or	NP4ZOLT1814G
	LED L-53HT or	NP4Z000L53HT
	LED LAMP 333HT/F45-50K or	NPWK333HTF45
	LED LAMP 333HT/F45-50L or	NPWL333HTF45
	LED LAMP 333HT/F45-50M	NPWM333HTF45
D1219	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1224	LED SIR-563ST3F P or	QPQPS1R563ST
	LED SIR-563ST3F Q	QPQQS1R563ST
D1227	PCB JUMPER D0.6-P5.0	JW5.0T
D1229	ZENER DIODE MTZJT-7715B or	QDTB00MTZJ15
	ZENER DIODE DZ-15BSBT265	NDTB00DZ15BS
D1230	ZENER DIODE MTZJT-7715B or	QDTB00MTZJ15
	ZENER DIODE DZ-15BSBT265	NDTB00DZ15BS
D1231	ZENER DIODE MTZJT-7718A or	QDTA00MTZJ18
	ZENER DIODE DZ-18BSAT265	NDTA00DZ18BS
D1302	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1303	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1304	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1305	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1306	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1307	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1308	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1309	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1311	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1318	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1350	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148

Ref. No.	Description	Part No.
D1351	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1352	ZENER DIODE MTZJT-779.1B or	QDTB0MTZJ9R1
	ZENER DIODE DZ-9.1BSBT265	NDTB0DZ9R1BS
D1353	ZENER DIODE MTZJT-779.1B or	QDTB0MTZJ9R1
	ZENER DIODE DZ-9.1BSBT265	NDTB0DZ9R1BS
D1354	ZENER DIODE MTZJT-779.1B or	QDTB0MTZJ9R1
	ZENER DIODE DZ-9.1BSBT265	NDTB0DZ9R1BS
D1401▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1632	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1633	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1635▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1638▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1640▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1801▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1806	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1807	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D1964▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D1965▲	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
▲	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
ICS		
IC1201	MICRO COMPUTER M37762MCA-BA4GP	QSZAA0RMB169
IC1202	IC:MEMORY BR24C02F-W or	QSMBA0SRM003
	IC:MEMORY AT24C02N-10SC or	NSMMA0SAZ012
	IC(EEPROM) M24C02-MN6 or	NSMMA0SS028
	IC:MEMORY BR24C02F or	QSMMA0SRM003
	IC:EEPROM CAT24WC02JI or	NSZBA0SBG001
	IC(EEP-ROM) M24C02-WMN6	NSZAA0SS004
IC1301	VCD IC M61276FP	QSZAA0RMB134
IC1401	IC:Y/C/A LA71091M	QSZBA0RSY012
IC1602▲	VOLTAGE REGULATOR KIA7805API or	NSBBA0SJY011
▲	VOLTAGE REGULATOR KA7805A or	NSZBA0SF3052
▲	IC:VOLTAGE REGULATOR AN7805F	AN7805F
IC1751	IC:HIFI LA72670M-A-MPB-E	QSZBA0RSY034
IC1801	AUDIO POWER IC AN17805A	QSZBA0SMS007
IC1802	IC:SWITCH TC4053BF(N) or	QSMBA0STS002
	IC:ANALOG MULTIPLEXERS CD4053BCSJX or	NSZBA0TF3071
	IC:ANALOG MULTIPLEXER CD4053BNSR	NSZBA0TTY093
COILS		
L1001	PCB JUMPER D0.6-P5.0	JW5.0T
L1002	INDUCTOR 47μH-J-26T or	LLAXJATTU470
	INDUCTOR 47μH-K-26T	LLAXKDTKA470
L1202	INDUCTOR 1.0μH-J-26T or	LLAXJATTU010
	INDUCTOR 1.0μH-K-26T	LLAXKDTKA1R0
L1203	MICRO INDUCTOR 0.22UH	LLARKBSTUR22
L1211	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L1302	PCB JUMPER D0.6-P5.0	JW5.0T
L1402	INDUCTOR 22μH-J-26T or	LLAXJATTU220
	INDUCTOR 22μH-K-26T	LLAXKDTKA220

Ref. No.	Description	Part No.
L1403	CHOKE COIL 47 μ H-K or	LLBD00PKV007
	CHOKE COIL 47 μ H-K	LLBD00PKV005
L1404	CHOKE COIL 47 μ H-K or	LLBD00PKV007
	CHOKE COIL 47 μ H-K	LLBD00PKV005
L1405	INDUCTOR 47 μ H-J-26T or	LLAXJATTU470
	INDUCTOR 47 μ H-K-26T	LLAXKDTKA470
L1751	PCB JUMPER D0.6-P5.0	JW5.0T
L1752	PCB JUMPER D0.6-P5.0	JW5.0T
L1802	PCB JUMPER D0.6-P5.0	JW5.0T
L1803	PCB JUMPER D0.6-P5.0	JW5.0T
L1804	PCB JUMPER D0.6-P5.0	JW5.0T
L1806	PCB JUMPER D0.6-P5.0	JW5.0T
L1807	PCB JUMPER D0.6-P5.0	JW5.0T
L1871	PCB JUMPER D0.6-P5.0	JW5.0T
L1872	INDUCTOR 47 μ H-K-5FT or	LLARKBSTU470
	INDUCTOR 47 μ H-K-5FT	LLARKDSKA470
TRANSISTORS		
Q1010	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1205	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1206	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F
Q1207	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1210	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1211	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1212	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1301	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1350	TRANSISTOR 2SC1627Y-TPE2	QQSY02SC1627
Q1351	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785

Ref. No.	Description	Part No.
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1401	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1402	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1403	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1608	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1611	TRANSISTOR 2SD400(F) or	QQUF002SD400
	TRANSISTOR 2SD400(E)	QQUE002SD400
Q1612	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR BN1F4M-T	QQSZ00BN1F4M
Q1613	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1701	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1803	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400 or	2SC3400Z
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q1806	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400 or	2SC3400Z
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q1871	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1872	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q1873	TRANSISTOR 2SC3331(T) or	QSC3331TNPA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPA
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1874	TRANSISTOR 2SC3331(T) or	QSC3331TNPA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPA
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1875	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR BN1F4M-T	QQSZ00BN1F4M
RESISTORS		
R1001	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1003	PCB JUMPER D0.6-P5.0	JW5.0T
R1006	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1007	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1008	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1010	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1011	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R1012	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471

Ref. No.	Description	Part No.
R1013	CARBON RES. 1/4W J 56 Ω	RCX4JATZ0560
R1200	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1201	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R1202	CARBON RES. 1/4W G 22k Ω	RCX4GATZ0223
R1203	CARBON RES. 1/4W G 470 Ω	RCX4GATZ0471
R1204	CARBON RES. 1/4W G 1.5k Ω	RCX4GATZ0152
R1205	CARBON RES. 1/4W G 3.6k Ω	RCX4GATZ0362
R1206	CARBON RES. 1/4W G 10k Ω	RCX4GATZ0103
R1207	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1208	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1209	PCB JUMPER D0.6-P5.0	JW5.0T
R1210	CARBON RES. 1/4W G 15k Ω	RCX4GATZ0153
R1211	CARBON RES. 1/4W G 6.8k Ω	RCX4GATZ0682
R1212	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R1213	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1214	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1215	CARBON RES. 1/4W G 1.5k Ω	RCX4GATZ0152
R1216	CARBON RES. 1/4W G 1.5k Ω	RCX4GATZ0152
R1217	CARBON RES. 1/4W G 2.2k Ω	RCX4GATZ0222
R1218	CARBON RES. 1/4W G 2.7k Ω	RCX4GATZ0272
R1219	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1220	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R1221	PCB JUMPER D0.6-P5.0	JW5.0T
R1222	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274
R1223	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R1224	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R1225	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1226	PCB JUMPER D0.6-P5.0	JW5.0T
R1227	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R1228	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1229	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R1230	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1232	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1233	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1234	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1235	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R1236	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1237	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1238	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R1239	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R1240	PCB JUMPER D0.6-P5.0	JW5.0T
R1241	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1243	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1244	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1245	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1246	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1247	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R1248	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1249	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R1250	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1251	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R1252	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1253	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R1254	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1255	PCB JUMPER D0.6-P5.0	JW5.0T
R1256	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1257	PCB JUMPER D0.6-P5.0	JW5.0T
R1258	PCB JUMPER D0.6-P5.0	JW5.0T
R1259	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1260	PCB JUMPER D0.6-P5.0	JW5.0T
R1262	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472

Ref. No.	Description	Part No.
R1263	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R1267	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R1269	PCB JUMPER D0.6-P5.0	JW5.0T
R1270	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1271	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1272	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1273	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R1274	PCB JUMPER D0.6-P5.0	JW5.0T
R1275	PCB JUMPER D0.6-P5.0	JW5.0T
R1277	PCB JUMPER D0.6-P5.0	JW5.0T
R1278	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R1280	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1290	PCB JUMPER D0.6-P5.0	JW5.0T
R1291	PCB JUMPER D0.6-P5.0	JW5.0T
R1292	PCB JUMPER D0.6-P5.0	JW5.0T
R1294	PCB JUMPER D0.6-P5.0	JW5.0T
R1299	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1301	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R1303	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R1305	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R1308	CARBON RES. 1/4W J 120k Ω	RCX4JATZ0124
R1310	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R1311	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R1312	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1314	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1315	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1316	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1320	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R1329	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R1330	CARBON RES. 1/4W J 18 Ω	RCX4JATZ0180
R1331	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1332	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R1333	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1334	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1335	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1336	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R1337	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1339	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R1350	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1351	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1352	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1353	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1406	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1407	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1408	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1409	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R1413	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R1414	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1415	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1416	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1417	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1418	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R1419	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R1423	CARBON RES. 1/4W J 5.6M Ω	RCX4JATZ0565
R1424	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1425	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R1426	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1427	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R1428	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1429	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1430	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472

Ref. No.	Description	Part No.
R1431	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1434	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1435	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R1645▲	METAL OXIDE FILM RES. 2W J 10 Ω or	RN02100ZU001
▲	METAL OXIDE FILM RES. 2W J 10 Ω	RN02100DP004
R1646	CARBON RES. 1/4W J 120 Ω	RCX4JATZ0121
R1648▲	METAL OXIDE FILM RES. 1W J 18 Ω or	RN01180ZU001
▲	METAL OXIDE FILM RES. 1W J 18 Ω	RN01180DP003
R1649▲	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R1656▲	METAL OXIDE FILM RES. 2W J 18 Ω or	RN02180ZU001
▲	METAL OXIDE FILM RES. 2W J 18 Ω	RN02180DP004
R1657	PCB JUMPER D0.6-P12.5	JW12.5T
R1659	PCB JUMPER D0.6-P5.0	JW5.0T
R1660	PCB JUMPER D0.6-P5.0	JW5.0T
R1661▲	METAL OXIDE FILM RES. 1W J 22 Ω or	RN01220ZU001
▲	METAL OXIDE FILM RES. 1W J 22 Ω	RN01220DP003
R1701	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R1721	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1722	PCB JUMPER D0.6-P5.0	JW5.0T
R1731	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1732	PCB JUMPER D0.6-P5.0	JW5.0T
R1751	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1752	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R1753	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1754	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1755	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1756	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R1757	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1758	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1759	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1761	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1764	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1766	PCB JUMPER D0.6-P5.0	JW5.0T
R1767	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1768	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1769	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1770	PCB JUMPER D0.6-P5.0	JW5.0T
R1771	PCB JUMPER D0.6-P5.0	JW5.0T
R1772	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1773	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1774	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1801	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1802	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1804▲	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1805▲	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1806	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R1807	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R1808	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R1809	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R1814▲	METAL OXIDE FILM RES. 2W J 3.9 Ω or	RN023R9ZU001
▲	METAL OXIDE FILM RES. 2W J 3.9 Ω	RN023R9DP004
R1815	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1816	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1817	CARBON RES. 1/2W J 1.8 Ω	RCX2JZQZ01R8
R1820	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1821	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1822	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1823	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1824	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1825	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1826	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473

Ref. No.	Description	Part No.
R1827	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1828	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1829	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1853	CARBON RES. 1/4W J 2.2M Ω	RCX4JATZ0225
R1856	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R1857	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1858	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1859	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1861	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1862	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R1863	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1864	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1865	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R1866	CARBON RES. 1/4W J 330k Ω	RCX4JATZ0334
R1867	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1868	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R1869	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R1871	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1872	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1873	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R1874	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1875	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1876	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1877	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R1971	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1980▲	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1981▲	METAL OXIDE FILM RES. 1W J 1.2 Ω or	RN011R2ZU001
▲	METAL OXIDE FILM RES. 1W J 1.2 Ω	RN011R2DP003
R1990	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
SWITCHES		
SW1201	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW1202	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW1203	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW1206	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW1207	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW1208	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW1209	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW1210	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02

Ref. No.	Description	Part No.
SW1211	LEAF SWITCH LSA-1142-2AU or LEAF SWITCH MXS00052MPP0 or LEAF SWITCH MXS00981MPP0	SSC0101KB014 SSC0101MCE01 SSC0101MCE02
SW1212	ROTARY MODE SWITCH SSS-50MD or ROTARY MODE SWITCH R8100245	SSR0106KB002 SSR0106U3002
MISCELLANEOUS		
CL1201	FMN CONNECTOR, TOP 12P 12FMN-BTRK	JCFNG12JG002
JK1701	RCA JACK(YELLOW) MTJ-032-05B-20	JXRL010LY038
JK1702	RCA JACK(WHITE) MTJ-032-05B-22	JXRL010LY039
JK1703	RCA JACK(RED) MTJ-032-05A-21	JYRL010LY010
JK1801	MINI JACK HSJ2000-01-010 or MINI JACK MSJ-2000	JYSL010HD002 JYSL010LY003
JM1002	PCB JUMPER D0.6-P5.0	JW5.0T
JM1003	PCB JUMPER D0.6-P5.0	JW5.0T
JM1004	PCB JUMPER D0.6-P5.0	JW5.0T
JM1011	PCB JUMPER D0.6-P5.0	JW5.0T
JM1018	PCB JUMPER D0.6-P7.5	JW7.5T
JM1019	PCB JUMPER D0.6-P30.0	JW30.0T
JM1079	PCB JUMPER D0.6-P5.0	JW5.0T
JM1302	PCB JUMPER D0.6-P7.5	JW7.5T
JM1351	PCB JUMPER D0.6-P12.5	JW12.5T
JM1801	PCB JUMPER D0.6-P7.5	JW7.5T
JM1805	PCB JUMPER D0.6-P10.0	JW10.0T
JM1806	PCB JUMPER D0.6-P5.0	JW5.0T
JM1807	PCB JUMPER D0.6-P5.0	JW5.0T
JM1901	PCB JUMPER D0.6-P5.0	JW5.0T
JS1802	PCB JUMPER D0.6-P20.0	JW20.0T
RS1201	REMOTE RECEIVER PIC-37042LU	USESJRSKK033
TB3	HEAD SHIELD TD851UB	OEM301823
TB7	LED HOLDER TD851UB	OEM408042
TB13	BUSH, LED(F) H3700UD	0VM409508
TP1201	PCB JUMPER D0.6-P10.0	JW10.0T
TP1401	PCB JUMPER D0.6-P22.5	JW22.5T
TP1402	PCB JUMPER D0.6-P15.0	JW15.0T
TP1403	PCB JUMPER D0.6-P22.5	JW22.5T
TP1632	PCB JUMPER D0.6-P10.0	JW10.0T
TP1701	PCB JUMPER D0.6-P22.5	JW22.5T
TP1702	PCB JUMPER D0.6-P22.5	JW22.5T
TP1801	PCB JUMPER D0.6-P10.0	JW10.0T
TP1802	PCB JUMPER D0.6-P17.5	JW17.5T
TU1001	TUNER TMQH2-001A	UTUNNTUAL036
X1201	XTAL 32.768kHz(20PPM) or XTAL 32.768kHz(20PPM) or XTAL 32.768kHz(20PPM) or	FXC323LJNY01 FXC323LCT001 FXC323LDS002
	XTAL 32.768kHz(20PPM) or	FXC323LQUA01
	XTAL 32.768kHz(20PPM)	FXC323LCHE01
X1202	XTAL HC-49/U 10.6MHz or XTAL AT49-10.6 or	FXD106LLN001 FXD106LDS002
	XTAL :10.6MHz S8562	FXD106LCT001
X1301	XTAL 3.579545 MHz or XTAL 3.579545MHz(30PPM)	FXD355LLN003 FXD355LCHE01
X1401	XTAL 3.579545MHz(20PPM) or XTAL 3.579545MHz(20PPM) or XTAL 3.579545MHz(20PPM) or	FXC355LJNY01 FXC355LLN003 FXC355LDS001
	XTAL 3.579545MHz or	FXC355LLN001
	XTAL 3.579545MHz(20PPM)	FXC355LCHE01

SENSOR CBA

Ref. No.	Description	Part No.
	SENSOR CBA Consists of the following	0ESA04524
TRANSISTORS		
Q201	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F
Q202	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F

MUT CBA

Ref. No.	Description	Part No.
	MUT CBA Consists of the following	X4T20HV1
	H.V. CBA CRT CBA JUCNTION A CBA JUCNTION B CBA	----- ----- ----- -----

H.V. CBA

Ref. No.	Description	Part No.
	H.V CBA Consists of the following	-----
CAPACITORS		
C531▲	PP.CAP 0.33μF/200V J or	CA2D334VC013
▲	PP CAP. 0.33μF/250V J	CT2E334MS041
C533▲	PPCAP 0.01μF/1.6KV J or	CA3C103VC011
▲	PP CAP. 0.01μF/1.6KV J or	CT3C103MS039
▲	METALLIZED FILM CAP. 0.01μF/1.6KV J or	CT3C103F7004
▲	POLYPROPYLENE FILM CAP. 0.01μF/1.6KV	CT3C103HJE16
C534▲	PCB JUMPER D0.6-P10.0	JW10.0T
C540	ELECTROLYTIC CAP. 2.2μF/100V M or	CE2AMASDL2R2
	ELECTROLYTIC CAP. 2.2μF/100V M	CE2AMASTL2R2
C541	ELECTROLYTIC CAP. 2.2μF/100V M or	CE2AMASDL2R2
	ELECTROLYTIC CAP. 2.2μF/100V M	CE2AMASTL2R2
C542	PCB JUMPER D0.6-P7.5	JW7.5T
C552	MYLAR CAP. 0.22μF/50V J or	CMA1JJS00224
	FILM CAP.(P) 0.22μF/50V J	CA1J224MS029
C553	ELECTROLYTIC CAP. 1μF/50V LL or	CE1JMASLH1R0
	ELECTROLYTIC CAP. 1μF/50V M LL or	CE1JMASLL1R0
	ELECTROLYTIC CAP. 1μF/50V M LL	CE1JMASLL010
C555	ELECTROLYTIC CAP. 47μF/35V M or	CE1GMASDL470
	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASTL470
C556	ELECTROLYTIC CAP. 1000μF/25V M or	CE1EMZPDL102
	ELECTROLYTIC CAP. 1000μF/25V M or	CE1EMZZTL102
	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZPTL102
C558	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C559	ELECTROLYTIC CAP. 470μF/35V M or	CE1GMASDL471
	ELECTROLYTIC CAP. 470μF/35V M	CE1GMASTL471
C560	FILM CAP.(P) 0.01μF/50V J or	CMA1JJS00103
	FILM CAP.(P) 0.01μF/50V J	CA1J103MS029
C574▲	ELECTROLYTIC CAP. 4.7μF/250V M or	CE2EMASDL4R7
▲	ELECTROLYTIC CAP. 4.7μF/250V M	CE2EMASTL4R7
C575	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C577	FILM CAP.(P) 0.01μF/50V J or	CMA1JJS00103
	FILM CAP.(P) 0.01μF/50V J	CA1J103MS029
C578	ELECTROLYTIC CAP. 47μF/35V M or	CE1GMASDL470
	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASTL470
C584▲	ELECTROLYTIC CAP. 1μF/160V M or	CE2CMASDL1R0
▲	ELECTROLYTIC CAP. 1μF/160V M	CE2CMASTL010
C585	CERAMIC CAP. B K 100pF/500V	CCD2JKS0B101
C590	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103

Ref. No.	Description	Part No.
C591	ELECTROLYTIC CAP. 2.2μF/50V M or	CE1JMASDL2R2
	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASTL2R2
C592▲	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
▲	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C594	ELECTROLYTIC CAP. 100μF/160V M or	CE2CMZPDL101
	ELECTROLYTIC CAP. 100μF/160V M or	CE2CMZPTL101
	ELECTROLYTIC CAP. 100μF/160V M W/F	CE2CMZNTL101
C595▲	CERAMIC CAP. BN 560pF/2KV or	CCD3DKA0B561
▲	CERAMIC CAP. 560pF/2KV or	CA3D561PAN04
▲	CERAMIC CAP. RB 560pF/2KV	CA3D561TE006
CONNECTORS		
CN571	CONNECTOR BASE, 5P TV-50P-05-V3 or	J3TVC05TG002
	CONNECTOR BASE, 5P RTB-1.5-5P	J3RTC05JG001
DIODES		
D552	DIODE 1N5397-B or	NDLZ001N5397
	RECTIFIER DIODE ERA15-02	AERA1502****
D572▲	DIODE FR104-B	NDLZ000FR104
D584	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D585	ZENER DIODE MTZJT-775.1B or	QDTB0MTZJ5R1
	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D586	PCB JUMPER D0.6-P5.0	JW5.0T
D591▲	ZENER DIODE MTZJT-7736B or	QDTB00MTZJ36
▲	ZENER DIODE DZ-36BSBT265	NDTB00DZ36BS
D595▲	ZENER DIODE MTZJT-7724A or	QDTA00MTZJ24
▲	ZENER DIODE DZ-24BSAT265	NDTA00DZ24BS
D596▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D597▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D598▲	DIODE FR104-B	NDLZ000FR104
ICS		
IC551▲	IC: VERTICAL OUTPUT LA78041 or	QSZBA0SSY006
▲	IC: VERTICAL OUTPUT LA78045	QSZBA0SSY004
COILS		
L505	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L530	LINEALITY COIL ELH5J6137N or	LLBD00PMS009
	LINEARITY COIL SCC-51μH or	LLBD00ZXQ002
	LINEARITY COIL ELH5L788N	LLBD00ZMS001
L532	CHOKE COIL 4.7MH or	LLBD00PMM002
	CHOKE COIL 4.7MH	LLBD00AKV010
TRANSISTORS		
Q571▲	TRANSISTOR TT2140LS-YB11 or	QQZZ00TT2140
▲	TRANSISTOR 2SC5885000RF	QQZZ02SC5885
Q591	TRANSISTOR 2SC1627Y-TPE2	QQSY02SC1627
Q592▲	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
▲	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
▲	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
▲	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
▲	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
▲	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
RESISTORS		
R530▲	METAL OXIDE FILM RES. 1W J 1k Ω or	RN01102DP003
▲	METAL OXIDE FILM RES. 1W J 1k Ω	RN01102ZU001
R541	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R542	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R543	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R544	METAL OXIDE FILM RES. 2W J 100 Ω or	RN02101DP004
	METAL OXIDE FILM RES. 2W J 100 Ω	RN02101ZU001

Ref. No.	Description	Part No.
R550	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R551	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R552	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R555	PCB JUMPER D0.6-P5.0	JW5.0T
R556	CARBON RES. 1/4W J 1 Ω	RCX4JATZ0010
R557	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R558	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R559	PCB JUMPER D0.6-P5.0	JW5.0T
R560	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R561	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R562	CARBON RES. 1/4W J 3.9 Ω	RCX4JATZ03R9
R563	CARBON RES. 1/4W J 3.9 Ω	RCX4JATZ03R9
R564	CARBON RES. 1/4W J 3.9 Ω	RCX4JATZ03R9
R565▲	CARBON RES. 1/4W J 1.5 Ω	RCX4JATZ01R5
R566▲	PCB JUMPER D0.6-P5.0	JW5.0T
R567▲	PCB JUMPER D0.6-P5.0	JW5.0T
R568▲	PCB JUMPER D0.6-P5.0	JW5.0T
R571	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R572	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R573	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R574▲	PCB JUMPER D0.6-P5.0	JW5.0T
R576	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R577	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R580	CARBON RES. 1/4W J 68 Ω	RCX4JATZ0680
R581	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R583▲	METAL OXIDE FILM RES. 2W J 2.7 Ω or	RN022R7DP004
▲	METAL RESISTER. 2W J 2.7 Ω	RN022R7ZU001
R584▲	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R585▲	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R586	PCB JUMPER D0.6-P5.0	JW5.0T
R587▲	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R588	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R589▲	CARBON RES. 1/4W J 68 Ω	RCX4JATZ0680
R590	CARBON RES. 1/4W J 68 Ω	RCX4JATZ0680
R591▲	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R592▲	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R593▲	CARBON RES. 1/4W J 150k Ω	RCX4JATZ0154
R594▲	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R598▲	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R599▲	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
MISCELLANEOUS		
BC571	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
CL502A	LEAD WIRE 8P 650MM	WX1TD370-003
CL503A	WIRE ASSEMBLY 8P 500MM	WX1TD951-002
DB1▲	HV PCB HOLDER T7240JL	0EM201496A
DB2	21V H/V HEATSINK(PIB)ASSEMBLYTD930JA	0EM408437
DB5	21V H/V HEATSINK(PIC)ASSEMBLYTD930JA	0EM408438
DL1	SCREW, P-TIGHT 3X10 BIND HEAD	GBUP3100
DL2	SCREW, B-TIGHT M3X8 BIND HEAD+ or	GBMB3080
	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
JS501	PCB JUMPER D0.6-P5.0	JW5.0T
T571▲	FLYBACK TRANS BSC25-2095S	LTF00CPS2030
T572	HORIZONTAL DRIVE TRANS LP2-005	LTH00CPA5005

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA Consists of the following	-----
CAPACITORS		
C501	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103

Ref. No.	Description	Part No.	
C502	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103	
C503	CERAMIC CAP.(AX) B K 0.01µF/50V	CCA1JKT0B103	
C504	CERAMIC CAP.(AX) B K 390pF/50V	CCA1JKT0B391	
C505	CERAMIC CAP.(AX) B K 470pF/50V	CCA1JKT0B471	
C506	CERAMIC CAP.(AX) B K 470pF/50V	CCA1JKT0B471	
C507	ELECTROLYTIC CAP. 100µF/10V M or ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101	
C508	ELECTROLYTIC CAP. 47µF/35V M or ELECTROLYTIC CAP. 47µF/35V M	CE1GMASDL470	
C509	CERAMIC CAP. B K 1000pF/2KV or CERAMIC CAP. B K 1000pF/2KV	CCD3DKP0B102	
	CERAMIC CAP. B K 1000pF/2KV	CA3D102MR030	
	CERAMIC CAP. B K 1000pF/2KV	CCD3DKD0B102	
C510	ELECTROLYTIC CAP. 1µF/50V M or ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0	
	CN501A	PIN CONNECTOR 005P-5100 or CONNECTOR PIN, 1P LV or CONNECTOR PIN, 1P RT-01N-2.3A	JTEA001TG001 1700576 1730688
	CONNECTORS		
D501	SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	
D502	SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	
D503	SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	
D504	SWITCHING DIODE 1SS133(T-77) or SWITCHING DIODE 1N4148	QDTZ001SS133 NDTZ001N4148	
	DIODES		
L501	PCB JUMPER D0.6-P5.0	JW5.0T	
	TRANSISTORS		
Q501	TRANSISTOR KTC3503Y or TRANSISTOR 2SC3619	NQWY0KTC3503 QQ9Z02SC3619	
Q502	TRANSISTOR KTC3503Y or TRANSISTOR 2SC3619	NQWY0KTC3503 QQ9Z02SC3619	
Q503	TRANSISTOR KTC3503Y or TRANSISTOR 2SC3619	NQWY0KTC3503 QQ9Z02SC3619	
Q504	TRANSISTOR 2SC2785(F) or TRANSISTOR 2SC2785(H) or TRANSISTOR 2SC2785(J) or TRANSISTOR KTC3199(GR) or TRANSISTOR KTC3198(GR) or TRANSISTOR 2SC1815-GR(TPE2)	QQSF02SC2785 QQSH02SC2785 QQSJ02SC2785 NQS10KTC3199 NQS40KTC3198 QQS102SC1815	
Q505	TRANSISTOR 2SC2785(F) or TRANSISTOR 2SC2785(H) or TRANSISTOR 2SC2785(J) or TRANSISTOR KTC3199(GR) or TRANSISTOR KTC3198(GR) or TRANSISTOR 2SC1815-GR(TPE2)	QQSF02SC2785 QQSH02SC2785 QQSJ02SC2785 NQS10KTC3199 NQS40KTC3198 QQS102SC1815	
Q506	TRANSISTOR 2SC2785(F) or TRANSISTOR 2SC2785(H) or TRANSISTOR 2SC2785(J) or TRANSISTOR KTC3199(GR) or TRANSISTOR KTC3198(GR) or TRANSISTOR 2SC1815-GR(TPE2)	QQSF02SC2785 QQSH02SC2785 QQSJ02SC2785 NQS10KTC3199 NQS40KTC3198 QQS102SC1815	
	RESISTORS		
R501	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101	
R502	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101	
R503	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101	
R504	PCB JUMPER D0.6-P5.0	JW5.0T	
R505	PCB JUMPER D0.6-P5.0	JW5.0T	

Ref. No.	Description	Part No.
R506	PCB JUMPER D0.6-P5.0	JW5.0T
R507	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R508	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R509	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R510	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R511	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R512	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R513	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R514	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R515	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R516▲	METAL RESISTOR 3W J 10k Ω or ▲ FIXED METAL OXIDE FILM RES. 3W J 10k Ω	RN03103ZU001 RN03103DP005
R517▲	METAL RESISTOR 3W J 10k Ω or ▲ FIXED METAL OXIDE FILM RES. 3W J 10k Ω	RN03103ZU001 RN03103DP005
R518▲	METAL RESISTOR 3W J 10k Ω or ▲ FIXED METAL OXIDE FILM RES. 3W J 10k Ω	RN03103ZU001 RN03103DP005
R519	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R520	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R521	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R522	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R523	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R524	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
MISCELLANEOUS		
CL501A	LEAD WIRE 3P 400MM	WX1T7100-101
CL504A	WIRE ASSEMBLY 5P 460MM	WX1TD600-001
JK501▲	CRT SOCKET ISHS40ST or ▲ CRT SOCKET HPS0521-012212	JSCC290PK006 JSCC290HD012

JUNCTION A CBA

Ref. No.	Description	Part No.
	JUNCTION A CBA Consists of the following	-----
CONNECTOR		
CN502	CONNECTOR, 6P TUC-P06X-B1	JCTUS06TG001

JUNCTION B CBA

Ref. No.	Description	Part No.
	JUNCTION B CBA Consists of the following	-----
CONNECTOR		
CN503	CONNECTOR 13P TUC-P13X-B1	JCTUS13TG001

MPS CBA

Ref. No.	Description	Part No.
	MPS CBA Consists of the following	0ESA05669
	POWER SUPPLY/AV CBA (MPS-A) FUNCTION CBA (MPS-B)	-----

POWER SUPPLY/AV CBA

Ref. No.	Description	Part No.
	POWER SUPPLY/AV CBA (MPS-A) Consists of the following	-----
CAPACITORS		
C2217	ELECTROLYTIC CAP. 47µF/25V M or ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470 CE1EMASTL470

Ref. No.	Description	Part No.
C2218	CERAMIC CAP(AX) F Z 0.022μF/25V	CCA1EZTFZ223
C2222	CERAMIC CAP(AX) B K 100pF/50V	CCA1JKT0B101
C2224	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C2225	ELECTROLYTIC CAP. 4.7μF/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASTL4R7
C2226	ELECTROLYTIC CAP. 4.7μF/50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASTL4R7
C2228	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C2229	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C2230	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C2231	CERAMIC CAP(AX) SL J 47pF/50V	CCA1JJTSL470
C2232	CERAMIC CAP(AX) SL J 47pF/50V	CCA1JJTSL470
C2233	CERAMIC CAP(AX) B K 220pF/50V	CCA1JKT0B221
C2236	CERAMIC CAP(AX) CH J 20pF/50V	CCA1JJTCH200
C2238	CERAMIC CAP(AX) B K 220pF/50V	CCA1JKT0B221
C2239	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C2261	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C2262	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C2301	CERAMIC CAP(AX) B K 1000pF/50V	CCA1JKT0B102
C2303	CERAMIC CAP(AX) F Z 0.022μF/25V	CCA1EZTFZ223
C2304	CERAMIC CAP(AX) SL J 68pF/50V	CCA1JJTSL680
C2401	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C2416	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASTL471
C2418	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C2423	CERAMIC CAP(AX) X M 2200pF/16V	CCA1CMT0X222
C2429	ELECTROLYTIC CAP. 220μF/6.3V M or	CE0KMASDL221
	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASTL221
C2432	CERAMIC CAP(AX) B K 100pF/50V	CCA1JKT0B101
C2604	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C2605▲	METALLIZED FILM CAP. 0.1μF/250V or	CT2E104MS037
▲	FILM CAP(MP) 0.1μF/250V K or	CT2E104DC011
▲	METALLIZED FILM CAP. 0.1μF/275V K	CT2E104HJE06
C2606	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZP0F103
	CERAMIC CAP. 0.01μF/AC250V or	CCD2EZAZ0F103
	CERAMIC CAP. E Z 0.01μF/500V	CCD2JZP0E103
C2607	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZP0F103
	CERAMIC CAP. 0.01μF/AC250V or	CCD2EZAZ0F103
	CERAMIC CAP. E Z 0.01μF/500V	CCD2JZP0E103
C2610	ELECTROLYTIC CAP. 470μF/200V or	CA2D471NC013
	ELECTROLYTIC CAP. 470μF/200V M W/F	CA2D471EA029
C2611	CERAMIC CAP. BN 820pF/2KV or	CCD3DKA0B821
	CERAMIC CAP. 820pF/2KV or	CA3D821PAN04
	CERAMIC CAP. RB 820pF/2KV	CA3D821TE006
C2612	FILM CAP(P) 0.033μF/50V J or	CMA1JJS00333
	FILM CAP(P) 0.033μF/50V J	CA1J333MS029
C2613	FILM CAP(P) 0.0012μF/50V J or	CMA1JJS00122
	FILM CAP(P) 0.0012μF/50V J	CA1J22MS029
C2614▲	FILM CAP(P) 0.082μF/50V J or	CMA1JJS00823
▲	FILM CAP(P) 0.082μF/50V J	CA1J823MS029
C2615	CERAMIC CAP. BN 820pF/2KV or	CCD3DKA0B821

Ref. No.	Description	Part No.
	CERAMIC CAP. 820pF/2KV or	CA3D821PAN04
	CERAMIC CAP. RB 820pF/2KV	CA3D821TE006
C2616	ELECTROLYTIC CAP. 100μF/160V M or	CE2CMZPDL101
	ELECTROLYTIC CAP. 100μF/160V M or	CE2CMZPTL101
	ELECTROLYTIC CAP. 100μF/160V M W/F	CE2CMZNTL101
C2617	ELECTROLYTIC CAP. 470μF/35V M or	CE1GMASDL471
	ELECTROLYTIC CAP. 470μF/35V M	CE1GMASTL471
C2618	ELECTROLYTIC CAP. 1000μF/16V M or	CE1CMZPDL102
	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTL102
C2619	ELECTROLYTIC CAP. 1000μF/16V M or	CE1CMZPDL102
	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTL102
C2620	ELECTROLYTIC CAP. 1000μF/16V M or	CE1CMZPDL102
	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTL102
C2621	ELECTROLYTIC CAP. 100μF/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100μF/16V M	CE1CMMASTL101
C2622	FILM CAP(P) 0.0047μF/50V J or	CMA1JJS00472
	FILM CAP(P) 0.0047μF/50V J	CA1J472MS029
C2624	CERAMIC CAP(AX) B K 0.01μF/50V	CCA1JKT0B103
C2625	ELECTROLYTIC CAP. 0.47μF/50V M or	CE1JMASDLR47
	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASTLR47
C2626	ELECTROLYTIC CAP. 10μF/50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTL100
C2630	SAFETY CAP. 4700pF/250V KX	CA2E472MR050
C2631	ELECTROLYTIC CAP. 1000μF/6.3V M or	CE0KMASDL102
	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASTL102
C2632	ELECTROLYTIC CAP. 100μF/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100μF/16V M	CE1CMMASTL101
C2633	ELECTROLYTIC CAP. 47μF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASTL470
C2637	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C2640	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMMASTL471
C2642	CERAMIC CAP(AX) B K 1000pF/50V	CCA1JKT0B102
C2643	ELECTROLYTIC CAP. 470μF/10V M or	CE1AMASDL471
	ELECTROLYTIC CAP. 470μF/10V M	CE1AMASTL471
C2645	CERAMIC CAP(AX) B K 0.01μF/50V	CCA1JKT0B103
C2646	ELECTROLYTIC CAP. 2200μF/6.3V M or	CE0KMPDL222
	ELECTROLYTIC CAP. 2200μF/6.3V M	CE0KMZNTL222
C2647	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMMASTL471
C2650	CERAMIC CAP(AX) B K 2200pF/50V	CA1J222TU011
C2651	CERAMIC CAP(AX) B K 2200pF/50V	CA1J222TU011
C2661	ELECTROLYTIC CAP. 100μF/16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100μF/16V M	CE1CMMASTL101
C2662	CERAMIC CAP(AX) B K 1000pF/50V	CCA1JKT0B102
C2671	CERAMIC CAP. B K 2200pF/500V or	CCD2JKP0B222
	CERAMIC CAP. B K 2200pF/500V	CCD2JKS0B222
CONNECTORS		
CN2401	FMN CONNECTOR, TOP 12P 12FMN-BTRK	JCFNG12JG002
CN2402	FMN CONNECTOR, TOP 22P 22FMN-BTRK	JCFNG22JG002
CN2601	CONNECTOR BASE, 2P TV-50P-02-V3 or	J3TVC02TG002
	CONNECTOR BASE, 2P RTB-1.5-2P	J3RTC02JG001
CN2602	CONNECTOR BASE, 6P TUC-P06P-B1	J3TUA06TG001
CN2803	TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001
CN2804	TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001
DIODES		
D2206	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D2245	PCB JUMPER D0.6-P5.0	JW5.0T

Ref. No.	Description	Part No.
D2403	ZENER DIODE MTZJT-7713B or	QDTB00MTZJ13
	ZENER DIODE DZ-13BSBT265	NDTB00DZ13BS
D2412	PCB JUMPER D0.6-P5.0	JW5.0T
D2413	DIODE FR104-B	NDLZ000FR104
D2427	ZENER DIODE MTZJT-773.9B or	QDTB0MTZJ3R9
	ZENER DIODE DZ-3.9BSBT265	NDTB0DZ3R9BS
D2602▲	ZENER DIODE MTZJT-7736A or	QDTA00MTZJ36
▲	ZENER DIODE DZ-36BSAT265	NDTA00DZ36BS
D2603▲	DIODE 1N5406 or	NDLZ001N5406
▲	DIODE ERC04-06L3	QD4Z0ERC0406
D2604▲	DIODE 1N5406 or	NDLZ001N5406
▲	DIODE ERC04-06L3	QD4Z0ERC0406
D2605▲	DIODE 1N5406 or	NDLZ001N5406
▲	DIODE ERC04-06L3	QD4Z0ERC0406
D2606▲	DIODE 1N5406 or	NDLZ001N5406
▲	DIODE ERC04-06L3	QD4Z0ERC0406
D2607▲	ZENER DIODE MTZJT-7724C or	QDT00MTZJ24
▲	ZENER DIODE DZ-24BSCT265	NDTC00DZ24BS
D2609▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D2610	ZENER DIODE MTZJT-775.6B or	QDTB0MTZJ5R6
	ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D2611	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2613▲	RECOVERY DIODE ERC18-04	QDZZ0ERC1804
D2614▲	DIODE FR104-B	NDLZ000FR104
D2615▲	DIODE FR154 or	NDLZ000FR154
▲	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D2616▲	SCHOTTKY BARRIER DIODE 21DQ04 or	QDQZ0021DQ04
▲	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D2617▲	RECTIFIER DIODE FR202-B/P	NDQZ000FR202
D2618▲	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
▲	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D2619	DIODE FR104-B	NDLZ000FR104
D2620▲	ZENER DIODE MTZJT-776.8B or	QDTB0MTZJ6R8
▲	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D2621	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2622	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2623	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2625	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2626	ZENER DIODE MTZJT-7736A or	QDTA00MTZJ36
	ZENER DIODE DZ-36BSAT265	NDTA00DZ36BS
D2627	ZENER DIODE MTZJT-7718A or	QDTA00MTZJ18
	ZENER DIODE DZ-18BSAT265	NDTA00DZ18BS
D2628	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2631	PCB JUMPER D0.6-P10.0	JW10.0T
D2634	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D2635	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2636	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2640▲	DIODE 1ZC33 or	QDQZ0001ZC33
▲	ZENER DIODE RD33FB	QDQZ000RD33F
D2641▲	ZENER DIODE MTZJT-7736A or	QDTA00MTZJ36
▲	ZENER DIODE DZ-36BSAT265	NDTA00DZ36BS

Ref. No.	Description	Part No.
D2644	ZENER DIODE MTZJT-775.6C or	QDT00MTZJ5R6
	ZENER DIODE DZ-5.6BSCT265	NDTC0DZ5R6BS
D2645▲	SCHOTTKY BARRIER DIODE 21DQ04 or	QDQZ0021DQ04
▲	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D2646▲	SCHOTTKY BARRIER DIODE 21DQ04 or	QDQZ0021DQ04
▲	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D2648	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2649▲	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
▲	SWITCHING DIODE 1N4148	NDTZ001N4148
D2650	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2651	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2657	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2660	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2661	PCB JUMPER D0.6-P5.0	JW5.0T
D2662	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D2663	ZENER DIODE MTZJT-776.8A or	QDTA0MTZJ6R8
	ZENER DIODE DZ-6.8BSAT265	NDTA0DZ6R8BS
ICS		
IC2201	IC:OP AMP NJM4558D or	QSZBA0SJR006
	IC:OP AMP KIA4558P	NSZBA0SJY004
IC2601▲	PHOTOCOUPLER LTV-817B-F or	NPEB0LTV817F
▲	PHOTOCOUPLER LTV-817C-F or	NPEC0LTV817F
▲	PHOTO COUPLER PC817X6	QPE600PC817X
IC2602▲	1.8V REGULATOR PQ018EF01SZ	QSZBA0SSH012
IC2603	VOLTAGE REGULATOR PQ070XF01SZ	QSZBA0SSH026
IC2604	IC:SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
COILS		
L2201	PCB JUMPER D0.6-P5.0	JW5.0T
L2203	PCB JUMPER D0.6-P5.0	JW5.0T
L2204	PCB JUMPER D0.6-P5.0	JW5.0T
L2205	PCB JUMPER D0.6-P5.0	JW5.0T
L2206	PCB JUMPER D0.6-P5.0	JW5.0T
L2401	PCB JUMPER D0.6-P5.0	JW5.0T
L2402	PCB JUMPER D0.6-P5.0	JW5.0T
L2403	INDUCTOR 22μH-K-5FT or	LLARKBSTRU220
	INDUCTOR 22μH-K-5FT	LLARKDSKA220
L2410	INDUCTOR 0.47μH-J-26T or	LLAXJATTUR47
	INDUCTOR 0.47μH-K-26T	LLAXKDTKAR47
L2411	CHOKE COIL 47μH-K	LLBD00PKV007
L2414	PCB JUMPER D0.6-P5.0	JW5.0T
L2415	PCB JUMPER D0.6-P5.0	JW5.0T
L2416	PCB JUMPER D0.6-P5.0	JW5.0T
L2417	PCB JUMPER D0.6-P5.0	JW5.0T
L2420	PCB JUMPER D0.6-P5.0	JW5.0T
L2421	INDUCTOR 2.2μH-K-5FT or	LLARKBSTRU2R2
	INDUCTOR 2.2μH-K-5FT	LLARKDSKA2R2
L2601▲	LINE FILTER MS036 or	LLBG00ZY2009
▲	LINE FILTER 8.2MH ELF21V018A	LLBG00ZMS036
TRANSISTORS		
Q2202	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198

Ref. No.	Description	Part No.
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2204	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2205	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2207	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2210	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q2211	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q2601▲	FET 2SK3407	QFFZ02SK3407
Q2602	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q2604▲	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
▲	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
▲	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
▲	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2605	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2606	TRANSISTOR 2SA950(O) or	Q2SA950TPE2
	TRANSISTOR 2SA950(Y) or	Q2SA950YTPE2
	TRANSISTOR KTA1271(Y)	NQSY0KTA1271
Q2607	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2608	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q2609▲	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
▲	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q2610	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q2611	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2612	TRANSISTOR 2SC2785(F) or	QQSF02SC2785

Ref. No.	Description	Part No.
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2613	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q2614	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q2615	RES. BUILT-IN TRANSISTOR KRC103M or	NQS00KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400 or	2SC3400Z
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQS00BA1F4M
Q2617▲	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
▲	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
▲	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2621	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2622	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q2623	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
RESISTORS		
R2202	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R2203	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R2204	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2205	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2206	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2207	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R2213	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R2214	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R2225	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R2226	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2227	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R2228	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2229	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2233	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2236	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2237	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R2252	PCB JUMPER D0.6-P5.0	JW5.0T
R2253	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R2254	PCB JUMPER D0.6-P5.0	JW5.0T
R2255	CARBON RES. 1/4W J 30k Ω	RCX4JATZ0303
R2256	PCB JUMPER D0.6-P5.0	JW5.0T
R2257	CARBON RES. 1/4W J 20k Ω	RCX4JATZ0203
R2258	PCB JUMPER D0.6-P5.0	JW5.0T
R2261	CARBON RES. 1/4W J 20k Ω	RCX4JATZ0203
R2262	CARBON RES. 1/4W J 30k Ω	RCX4JATZ0303
R2263	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R2283	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333

Ref. No.	Description	Part No.
R2284	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R2301	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2302	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R2303	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R2304	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2305	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2306	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R2418	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R2428▲	CARBON RES. 1/2W J 18 Ω or	RCX2JZQZ0180
▲	CARBON RES. 1/2W J 18 Ω	RCX210KA013
R2601	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R2602▲	CEMENT RES. 7W K 1.2 Ω or	RW071R2DP007
▲	CEMENT RESISTOR 7W K 1.2 Ω H=25MM or	RW071R2PG002
▲	CEMENT RESISTOR 7W J 1.2 Ω	RW071R2PAK11
R2603▲	METAL OXIDE FILM RES. 2W J 0.27 Ω or	RN02R27ZU001
▲	METAL OXIDE FILM RES. 2W J 0.27 Ω	RN02R27DP004
R2604	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R2605	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R2606	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2607	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2608	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R2609▲	CARBON RES. 1/4W J 3.3 Ω	RCX4JATZ03R3
R2610	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R2613	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R2614	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R2615	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R2616▲	PCB JUMPER D0.6-P5.0	JW5.0T
R2617	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R2618▲	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R2619	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R2620▲	CEMENT RES. 5W J 3.9k Ω or	RW05392DP008
▲	CEMENT RES. 5W 3.9k J H=25MM or	RW05392PG004
▲	CEMENT RESISTOR 5W J 3.9k Ω	RW05392PAK13
R2621▲	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R2622	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R2623	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R2624▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2625▲	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R2629▲	CARBON RES. 1/4W J 13k Ω	RCX4JATZ0133
R2630	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R2631	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R2632▲	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R2633▲	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R2634	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2635	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2636▲	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R2638	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R2639▲	CARBON RES. 1/2W J 1.2k Ω or	RCX2JZQZ0122
▲	CARBON RES. 1/2W J 1.2k Ω	RCX212KA013
R2640	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R2641	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2642	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R2643	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2644	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2645▲	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2646▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2647▲	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R2649	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2
R2650▲	METAL OXIDE FILM RES. 1W J 8.2 Ω or	RN018R2ZU001
▲	METAL OXIDE FILM RES. 1W J 8.2 Ω	RN018R2DP003
R2651	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473

Ref. No.	Description	Part No.
R2653▲	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R2654▲	CARBON RES. 1/2W J 15 Ω or	RCX2JZQZ0150
▲	CARBON RES. 1/2W J 15 Ω	RCX210KA013
R2655	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R2656	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2657	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2659	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2660	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2661	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2662	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R2663	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R2664	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R2665▲	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R2666	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R2667	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R2669	PCB JUMPER D0.6-P5.0	JW5.0T
R2671	CARBON RES. 1/4W G 18k Ω	RCX4GATZ0183
R2672	CARBON RES. 1/4W G 56k Ω	RCX4GATZ0563
R2673	PCB JUMPER D0.6-P5.0	JW5.0T
R2676▲	METAL OXIDE FILM RES. 1W J 0.22 Ω or	RN01R22ZU001
▲	METAL OXIDE FILM RES. 1W J 0.22 Ω	RN01R22DP003
R2677	METAL OXIDE FILM RES. 2W J 1 Ω or	RN021R0DP004
	METAL OXIDE FILM RES. 2W J 1 Ω	RN021R0ZU001
R2678	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2681	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2682	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2683	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2684	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2685	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2686	CARBON RES. 1/4W G 8.2k Ω	RCX4GATZ0822
R2687	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R2689	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R2690	METAL OXIDE FILM RES. 1W J 0.22 Ω or	RN01R22ZU001
	METAL OXIDE FILM RES. 1W J 0.22 Ω	RN01R22DP003
R2691	METAL OXIDE FILM RES. 1W J 8.2 Ω or	RN018R2ZU001
	METAL OXIDE FILM RES. 1W J 8.2 Ω	RN018R2DP003
R2696	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2697	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2698	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
MISCELLANEOUS		
BC2201	PCB JUMPER D0.6-P5.0	JW5.0T
BC2202	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC2401	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
BC2410	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC2412	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
BC2600	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC2601	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC2604	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
BC2605	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
BC2606	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
F2601▲	FUSE 4.00A/125V or	PAGU20CAG402
▲	FUSE 51MS040L or	PAFC20CHV402
▲	FUSE STC4A125V U/CT or	PAGE20CW3402
▲	FUSE 4.00A/125V	PAGG20CNG402
FH2601	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH2602	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078	XH01Z00DK001
JK2201	RCA JACK 3PIN MSP-243VS-23 PBSN-FE	JXRL030LY093
JS2002	PCB JUMPER D0.6-P5.0	JW5.0T
JS2201	PCB JUMPER D0.6-P5.0	JW5.0T

Ref. No.	Description	Part No.
JS2410	PCB JUMPER D0.6-P5.0	JW5.0T
JS2412	PCB JUMPER D0.6-P5.0	JW5.0T
JS2603	PCB JUMPER D0.6-P30.0	JW30.0T
JS2604	PCB JUMPER D0.6-P30.0	JW30.0T
PS2601	THERMISTOR ZPB45BL7R0A	QNZZ45BL7R0A
▲	SURGE ABSORBER JVR-07N471K or	NVQZVR07N471
▲	SURGE ABSORBER CNR-10D471K or	NVQZR10D471K
▲	SURGE ABSORBER CNR-07D471K or	NVQZR07D471K
▲	SURGE ABSORBER PVR-07D471KB	NVQZ07D471KB
SG2601	GAP. FNR-G3.10D	FAZ000LD6005
▲	SWITCHING TRANS 03703	LTT00CPKT108
TB9	X3 FILTER HEAT SINK PGL TD500UA	0EM407094
TB17	X3 POW HEAT SINK PGK ASSEMBLYTD500UA	0EM407108
TL2	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
TL6	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
TP2201	PCB JUMPER D0.6-P10.0	JW10.0T
TP2202	PCB JUMPER D0.6-P10.0	JW10.0T
TP2203	PCB JUMPER D0.6-P10.0	JW10.0T
TP2204	PCB JUMPER D0.6-P10.0	JW10.0T
VR2601	CARBON P.O.T. 10k Ω B or	VRCB103KA011
▲	CARBON P.O.T. 10k Ω B	VRCB103HH014
W2601▲	AC CORD PB8K9F9110A-057 or	WAC0172LW008
▲	AC CORD WAC0172LTE01 or	WAC0172LTE01
▲	AC CORD WAC0172AS006 or	WAC0172AS006
▲	AC CORD LA-2366 or	WAC0172LW006
▲	AC CORD A0A0280-007	WAC0172LTE04

Ref. No.	Description	Part No.
SW2404	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW2405	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW2406	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW2407	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW2408	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02

FUNCTION CBA

Ref. No.	Description	Part No.
	FUNCTION CBA (MPS-B) Consists of the following	-----
CONNECTORS		
CN2801	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002
	STRAIGHT PIN HEADER, 2P 173981-2	1770258
CN2805	TWG CONNECTOR 07P TWG-P07X	JCTWA07TG001
RESISTORS		
R2401	CARBON RES. 1/4W G 1.5k Ω	RCX4GATZ0152
R2402	CARBON RES. 1/4W G 1.5k Ω	RCX4GATZ0152
R2403	CARBON RES. 1/4W G 2.2k Ω	RCX4GATZ0222
R2404	CARBON RES. 1/4W G 2.7k Ω	RCX4GATZ0272
R2405	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R2406	CARBON RES. 1/4W G 6.8k Ω	RCX4GATZ0682
R2407	CARBON RES. 1/4W G 15k Ω	RCX4GATZ0153
SWITCHES		
SW2401	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW2402	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02
SW2403	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B or	SST0101HH003
	TACT SWITCH TC-1104(H=5.0)	SST0101DNG02

DECK PARTS LIST

NOTE:

Four different, but interchangeable, types of B558 (LOADING MOTOR) may be installed in these models. Please confirm B558 (LOADING MOTOR) type by a part number on it. B558 (LOADING MOTOR) type varies in combination with L1151. Please see Table 1 for details and combination.

Table 1 (B558 and L1151 Combination)

LOADING MOTOR (B558)		SCREW (L1151)	
Description	Parts No.	Description	Parts No.
LOADING MOTOR M31E-1 R-14 7376	MMDZB12MM003	SCREW, SEMS M2.6X4 PAN HEAD+	CPM39040
LOADING MOTOR M31E-1 R-14 7391	MMDZB12MM004		
LOADING MOTOR MDB2B80	MMDZB12SJ008	SCREW, SEMS M3X4 PAN HEAD+	CPM33040
LOADING MOTOR MDB2B82	MMDZB10SJ001		

Ref. No.	Description	Part No.
B2	CYLINDER ASSEMBLY MK12 NTSC 4HD HIFI or CYLINDER ASSEMBLY(V) MK12 NTSC 4HD HIFI	N1668CYL N1669CYL
B3	LOADING MOTOR ASSEMBLY MK11 TVCR	0VSA13465
B8	PULLEY ASSEMBLY MK12	0VSA13500
B9	MOVING GUIDE S PREPARATION MK12	0VSA13560
B10	MOVING GUIDE T PREPARATION MK12	0VSA13562
B11	LOADING ARM(TU) ASSEMBLY MK12	0VSA13300
B12	LOADING ARM(SP) ASSEMBLY MK12	0VSA13299
B31	AC HEAD ASSEMBLY MK12(TVCR)	0VSA13517
B35	TAPE GUIDE ARM ASSEMBLY MK12	0VSA13277
B37	CAPSTAN MOTOR 288/VCCM012	N9670CML
B52	CAP BELT MK10	0VM411138
B73	FE HEAD ASSEMBLY MK11 or FE HEAD ASSEMBLY MK11 or	N9742FEL N9743FEL
	FE HEAD(MK11) MH-131SF11 or	DHVEC01Z0005
	FE HEAD(MK11) VTR-1X2ERS11-148 or	DHVEC01TE004
	FE HEAD(MK12) VTR-1X2ERS11-155 or	DHVEC01TE005
	FE HEAD(MK12) HVFHP0047A	DHVEC01AL007
B74	PRISM MK10	0VM202870
B121	WORM MK12	0VM414091
B126	PULLEY MK12	0VM414330B
B133	IDLER GEAR MK12	0VM305738
B134	IDLER ARM MK12	0VM305739
B148	TG CAP MK11	0VM412972
B300	C DRIVE LEVER(TU) MK12	0VM203773
B303	F DOOR OPENER MK12	0VM203751C
B313	C DRIVE SPRING MK12	0VM414145
B347	GUIDE HOLDER A MK10	0VM304920
B354	SLIDER(TU) MK12	0VM101172F
B355	SLIDER(SP) MK12 or	0VM101182F
	SLIDER(SP) SUB ASSEMBLY MK12 or	0VDM12542
	SLIDER(SP) MK12	0VM101182H
B359	CLEANER LEVER MK10	0VM304413
B360	CLEANER ROLLER MK9	0VM410032C
B361	CL POST MK10	0VM411114

Ref. No.	Description	Part No.
B410	PINCH ARM(A) ASSEMBLY(4) MK12 or PINCH ARM(A) ASSEMBLY(5) MK12	0VSA13572 0VSA13788
B411	PINCH SPRING MK12	0VM414644
B414	M BRAKE(SP) ASSEMBLY MK12	0VSA13282
B416	M BRAKE(TU) ASSEMBLY MK12	0VSA13283
B417	TENSION SPG(3002645) MK12	0VM414221F
B425	LOCK LEVER SPRING MK10	0VM411110
B426	KICK PULLEY MK10	0VM411095
B482	CASSETTE PLATE MK12	0VM203749
B483	LOCK LEVER MK12	0VM414095
B487	BAND BRAKE(SP) MK12	0VM305723
B488	MODE LEVER MK12	0VM101173
B491	CAM GEAR(A) MK12	0VM101174
B492	MODE GEAR MK12	0VM203769
B494	C DOOR OPENER MK12	0VM305719
B499	T LEVER HOLDER MK12	0VM305729
B501	WORM HOLDER MK12	0VM203767
B502	CAM GEAR(B) MK12	0VM305721
B507	REEL WASHER MK9 5*2.1*0.5	0VM410058
B508	S BRAKE SPRING MK10	0VM411121
B513	CAM WASHER MK12	0VM414741
B514	SCREW RACK MK10	0VM411535
B516	REEL WASHER MK9 5*2.1*0.5	0VM410058
B520	TU BRAKE SPRING MK12	0VM414285
B521	REV BRAKE SPRING MK12	0VM414222
B522	TG POST ASSEMBLY MK11	0VSA12080
B525	LDG BELT MK11	0VM412804
B529	CLEANER ASSEMBLY MK10	0VSA11161
B553	REV SPRING MK11	0VM412555
B555	RACK ASSEMBLY MK12	0VSA13289
B557	MOTOR PULLEY U5	0VM403205A
B558	LOADING MOTOR MDB2B82 or	MMDZB10SJ001
	LOADING MOTOR MDB2B80 or	MMDZB12SJ008
	LOADING MOTOR M31E-1 R-14 7376 or	MMDZB12MM003
	LOADING MOTOR M31E-1 R-14 7391	MMDZB12MM004
B559	CLUTCH ASSEMBLY MK12	0VSA13284
B560	KICK SPRING MK10	0VM411475A
B561	F DOOR SPRING MK10	0VM411430
B562	C DRIVE LEVER(SP) MK12	0VM203772
B563	SLIDER SHAFT MK12	0VM305762
B564	M GEAR MK12	0VM305735
B565	SENSOR GEAR MK12	0VM305736
B567	PINCH ARM(B) MK12	0VM305718
B568	BT ARM MK12	0VM305728
B570	CAM RACK SPRING(HI) MK11	0VM412923
B571	P.S.W CUT 1.6X4.0X0.5T	0VM408485A
B573	REEL(SP)(D2) MK12	0VM203755
B574	REEL(TU)(D2) MK12	0VM203756
B587	TENSION LEVER ASSEMBLY MK12	0VSA13279
B590	BRAKE ARM(TU) MK12	0VM203752E
B591	BAND BRAKE(TU) MK12	0VM305724C
B592	TG POST MK11	0VM412550
B593	CAM HOLDER(F) ASSEMBLY MK12	0VSA13390
L1051	SCREW, B-TIGHT M2.6X6 PAN HEAD+	GPMB9060
L1053	SCREW, S-TIGHT M2.6X8 WASHER HEAD+	GCMS9080
L1151	SCREW, SEMS M3X4 PAN HEAD + or	CPM33040
	SCREW, SEMS M2.6X4 PAN HEAD+	CPM39040

Ref. No.	Description	Part No.
L1191	SCREW, S-TIGHT M2.6X8 WASHER HEAD+	GCMS9080
L1321	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
L1341	SCREW, P-TIGHT M2X6 PAN HEAD+	GPMP2060
L1406	AC HEAD SCREW MK9	0VM410964
L1450	SCREW, SEMS M2.6X5 PAN HEAD+	CPM39050
L1466	SCREW, S-TIGHT M2.6X6 BIND HEAD+	GBMS9060
L1467	SCREW M2.6X5 WASHER HEAD+	SCM39050

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